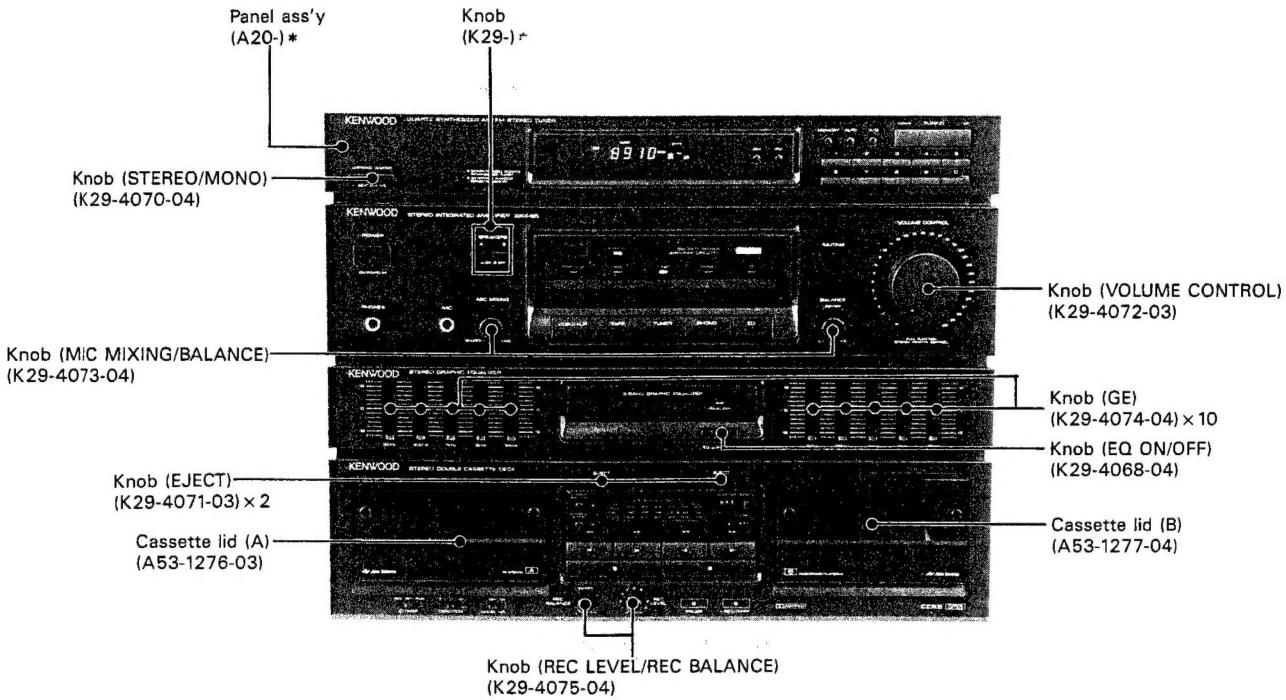
AM-FM STEREO DECK RECEIVER

KRX-69/89

SERVICE MANUAL

KENWOOD

B51-4132-00(T)2231



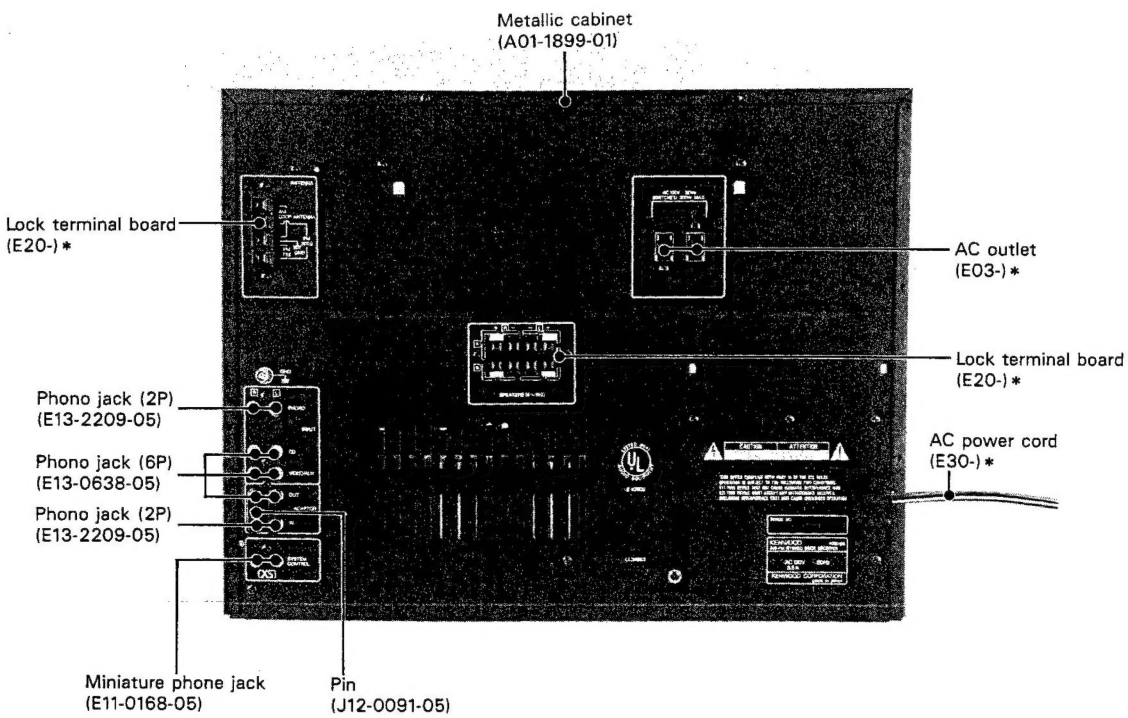


Photo is KRX-89.

***Refer to parts list on page 80.**

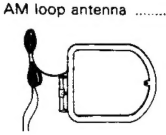
CONTENTS

NOTES FOR USE

1. Keep apart the lead wire for speaker which is located at inner left side of the main unit from head lead wire of A deck as much as possible.
2. Where power transfer switch (M, Y types) is attached to the main unit, two 3-pin connectors, CN712 (the first pin is colored in red) and CN713 (the first pin is colored in blue), are built in power board (X00-). Wrong connection may therefor result in blowing a fuse, so conduct correct insertion. Make CN713 into a 4-pin connector so as not to mistakenly insert CN712 and CN713.

ACCESSORIES

- AM loop antenna 1

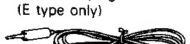


(T90-0173-05)

- Loop antenna stand 1

(J19-2815-04)

Cord with plug
(E type only)



(E30-1392-05)

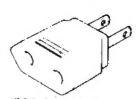
- FM indoor antenna 1

(T90-0176-05)

- Remote control unit 1

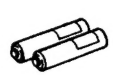
(A70-0501-05)

- AC plug adaptor 1
(M type only)
For the unit with a European AC plug in areas other than Europe.

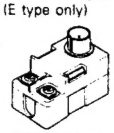


(E03-0115-05)

- Battery (R03/AAA) 2



Antenna adaptor
(E type only)



(T90-0177-05)

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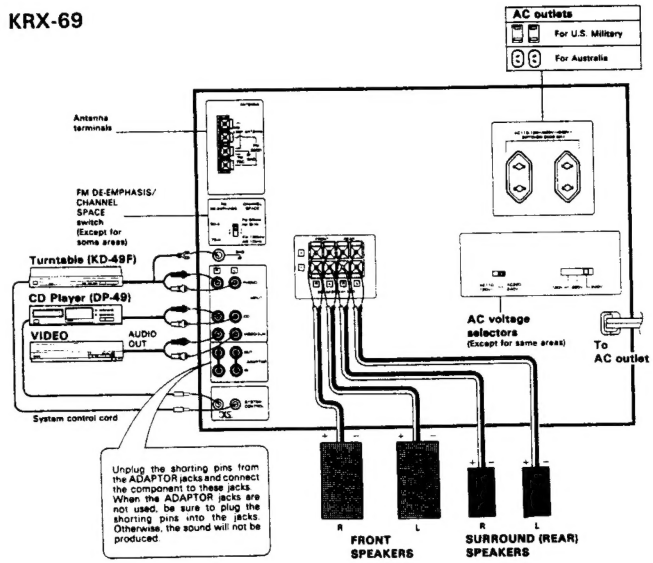
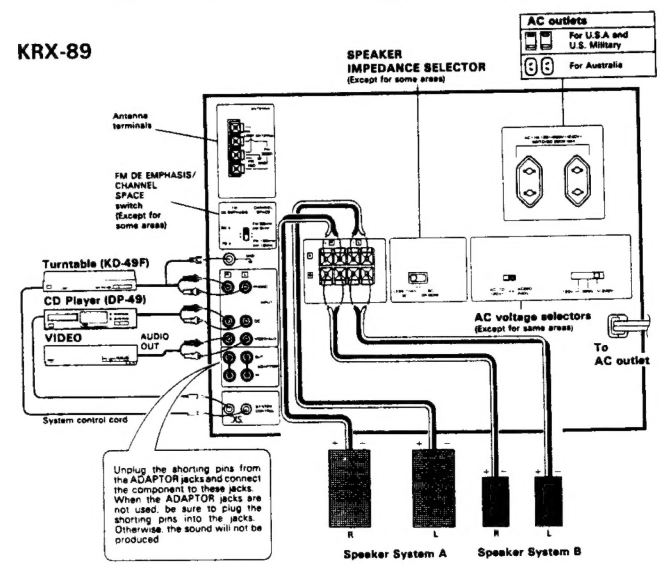
SYSTEM CONNECTIONS

KRX-69



KRX-89



By connecting this unit to other KENWOOD system components equipped with SYSTEM CONTROL terminals, the following convenient operations will be available.

1. **Automatic play operation**
When starting play with the turntable or CD player connected to this unit, press the desired input selector keys on this unit. The turntable or CD player will automatically enter play mode. In the same way, pressing the Play key of the turntable or CD player will automatically switch the input selector on this unit to the component on which the Play key is pressed.
2. **Synchro recording**
3. **Remote control**
When the turntable or CD player are connected via the system control cords, these components can be controlled from the remote control unit supplied with this unit.

■Setting the SPEAKER IMPEDANCE SELECTOR

(Except for some areas)

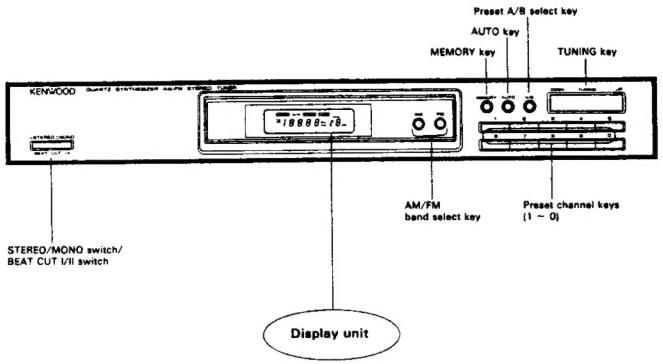
According to the impedance of the speakers used, set the SPEAKER IMPEDANCE SELECTOR on the rear panel as shown in the table.

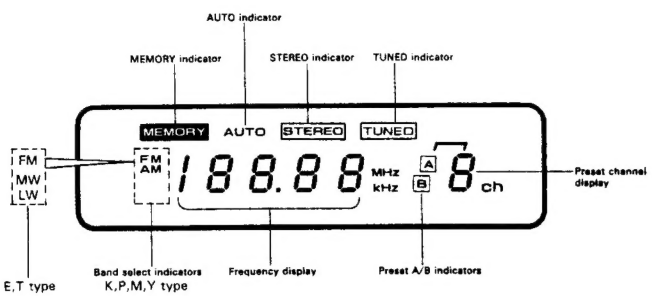
Speaker impedance	Selector position
4Ω. 6Ω	"LESS THAN 8Ω"
8Ω. 16Ω	"8Ω OR MORE"

Notes:
1. When connecting the audio cables, always insert the pin plugs correctly into the connecting jacks.
   - Insufficient insertion may result in no-sound problems or generation of noise.
2. During speaker system connection and operation of the SPEAKER IMPEDANCE SELECTOR, set the POWER switch to OFF.
3. Check that the connected lead wires of the speaker systems do not come into contact with other jacks or terminals.

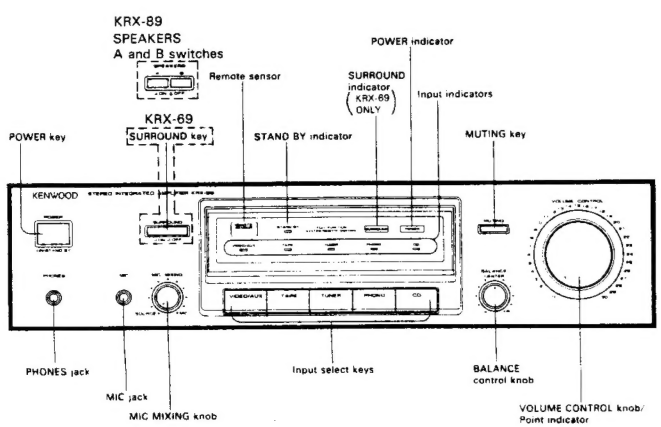
CONTROLS AND INDICATORS

TUNER



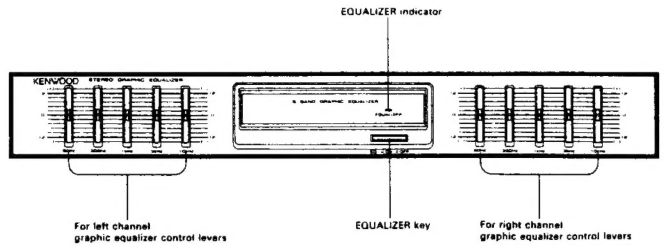


AMPLIFIER

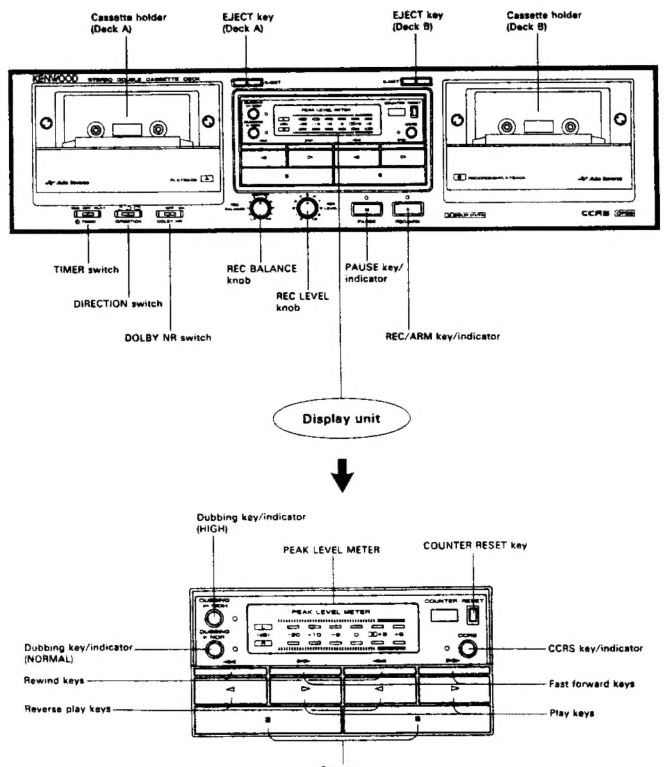


CONTROLS AND INDICATORS

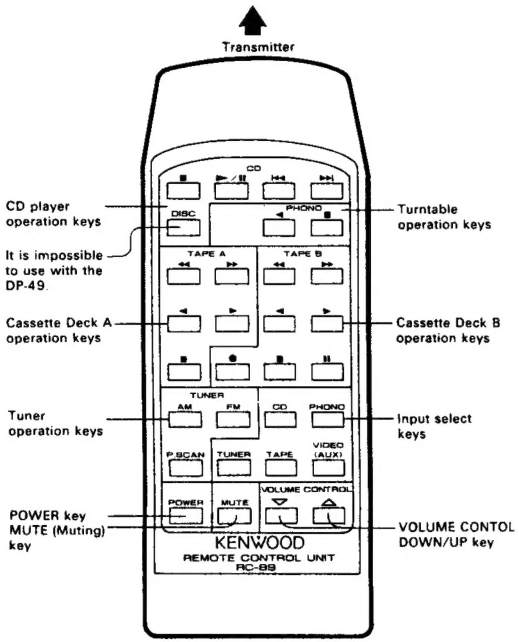
GRAPHIC EQUALIZER



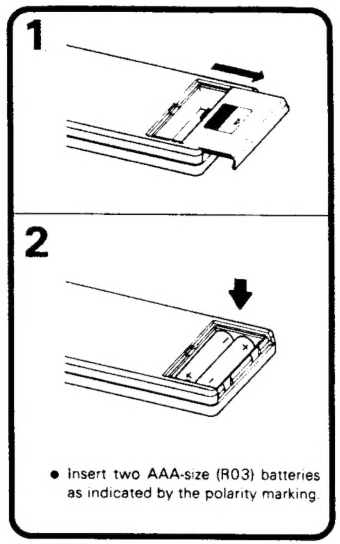
CASSETTE DECK



REMOTE CONTROL UNIT



■Loading batteries

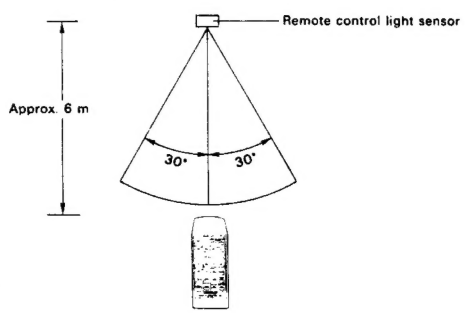


- Insert two AAA-size (R03) batteries as indicated by the polarity marking.

■Operation procedure

Plug the power cord of the main system into an AC wall outlet, and press the POWER key on the remote control unit to turn the power on.
When the power is turned on, direct the remote control transmitter toward the tuner and press the key of the source component to be operated.

Operating range

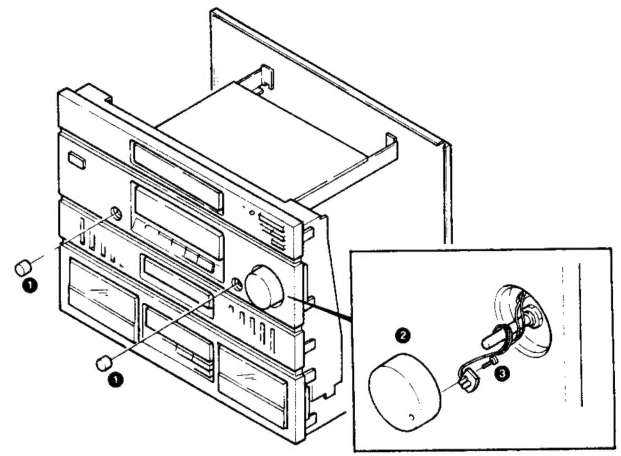


- Components connected via the system control cords, such as the CD player, can also be remote-controlled. In this case, please read the instruction manual supplied with your CD player.

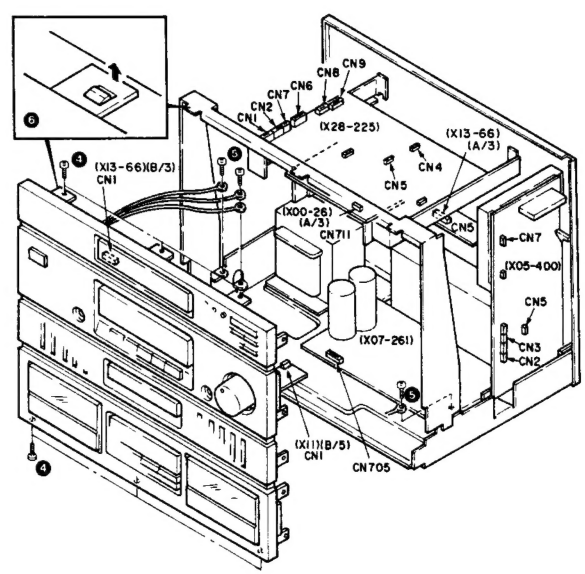
DISASSEMBLY FOR REPAIR

1. Disconnect the 2 knobs ❶ from the unit.
2. Disconnect the volume thumbscrew from the unit ❷.
3. Remove the vis before disconnecting LED board from the unit ❸.

(Turn the volume thumbscrew in clockwise direction in order to mount the cord as illustration shows when a thumbscrew is mounted.)

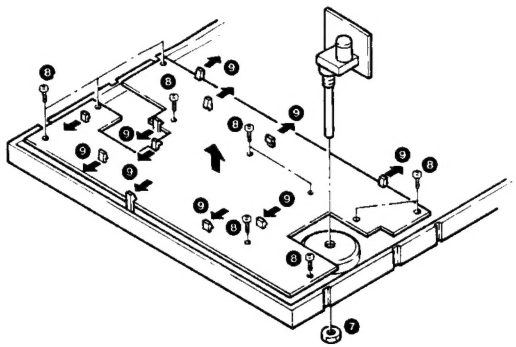


4. Remove 6 vises ❹ from the unit.
5. Remove 3 vises ❺ on earth cord in order to detach the connector as shown in the illustration.
6. Take off the clicks attached on both ends and in upper part in order to remove the front panel from the unit.

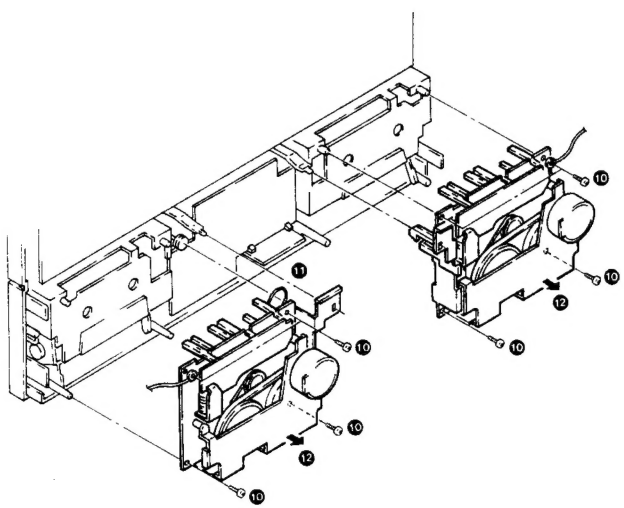


DISASSEMBLY FOR REPAIR

7. Remove the nut and volume board ⑦.
8. Remove the 10 vises ⑧ from the unit.
9. Take off clicks attached on 11 places ⑨ and remove the board from the unit.



10. Remove 4 vises ● and A and B mechanism respectively.
11. Take off the belt wrapped around the B mechanism ●.
12. Press the eject button on front panel in order to remove the A and B mechanism from the unit.



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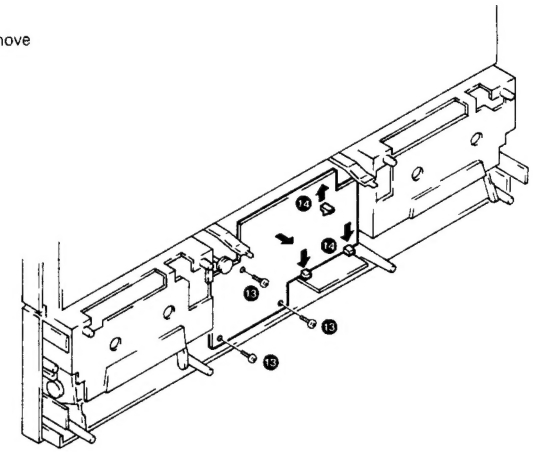
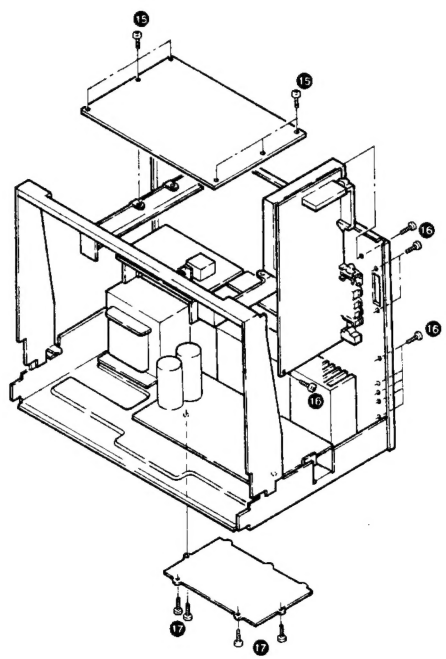
DISASSEMBLY FOR REPAIR

13. Remove 3 vises ● from the unit.
14. Take off the clicks attached on 3 places ● and remove the board from the unit.



15. Remove 6 vises and the board from the unit ●.
16. Remove 9 vises ● and the board from the unit.
17. Remove 4 vises ● and bottom board from the unit.



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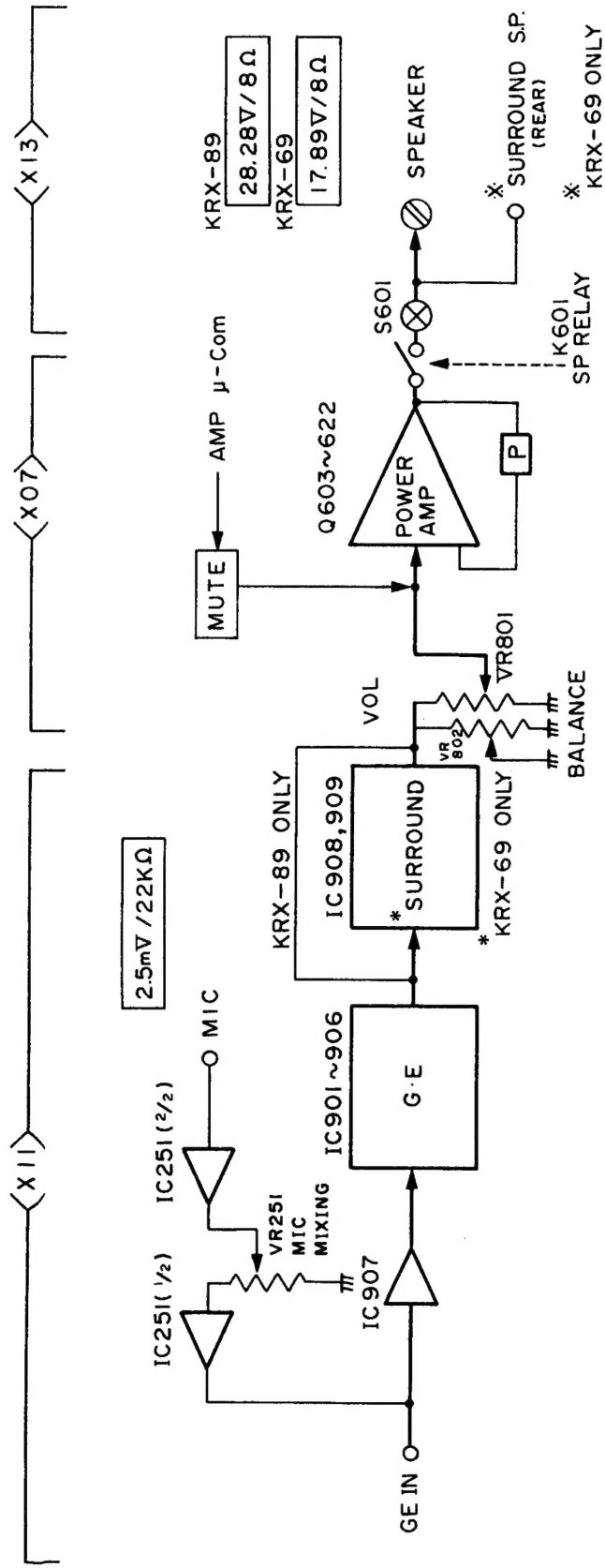
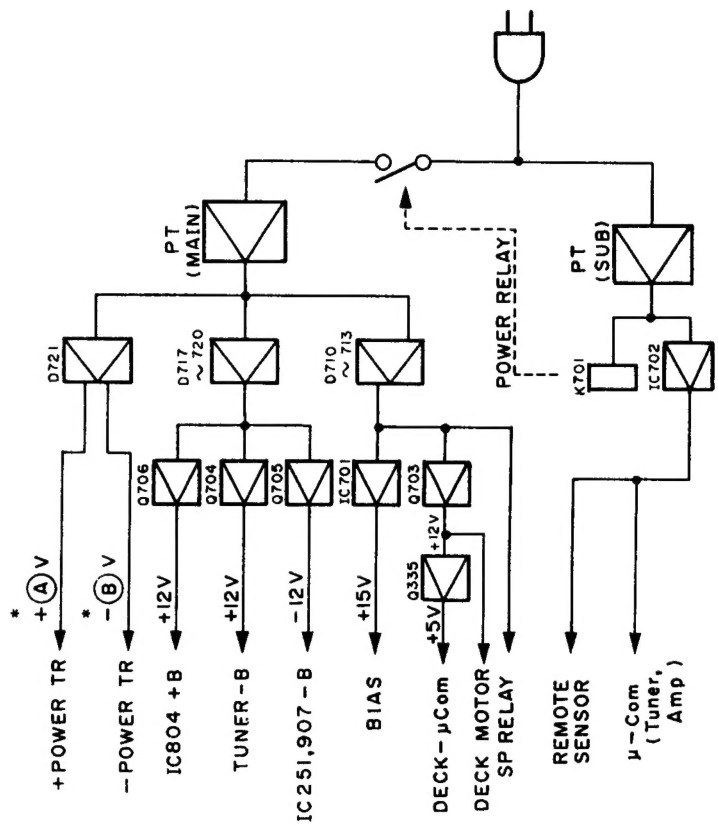
BLOCK AND LEVEL DIAGRAM

AMPLIFIER SECTION

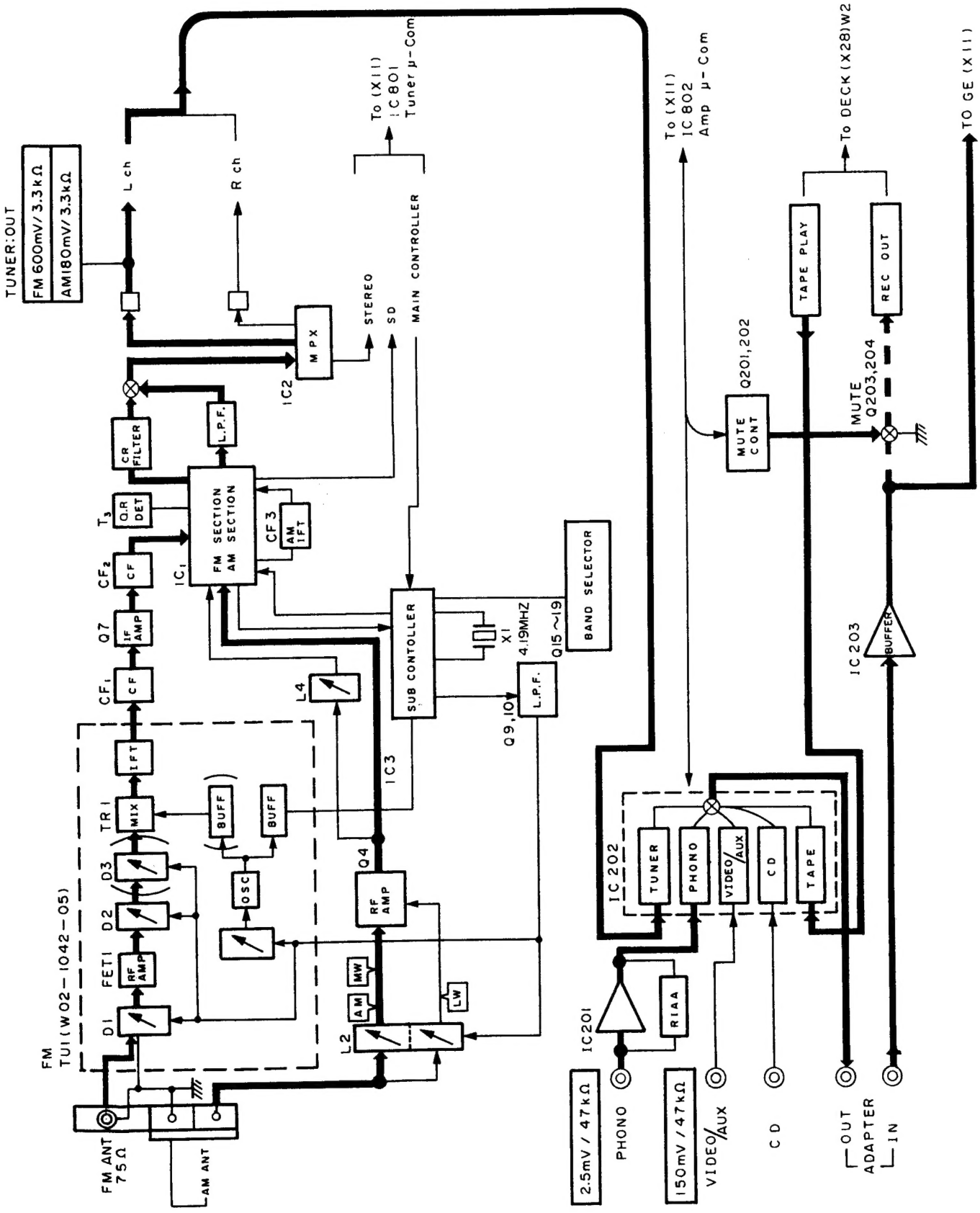




*For the values of Ⓐ and Ⓑ, refer to the schematic diagram.

BLOCK AND LEVEL DIAGRAM

TUNER SECTION (X05-)



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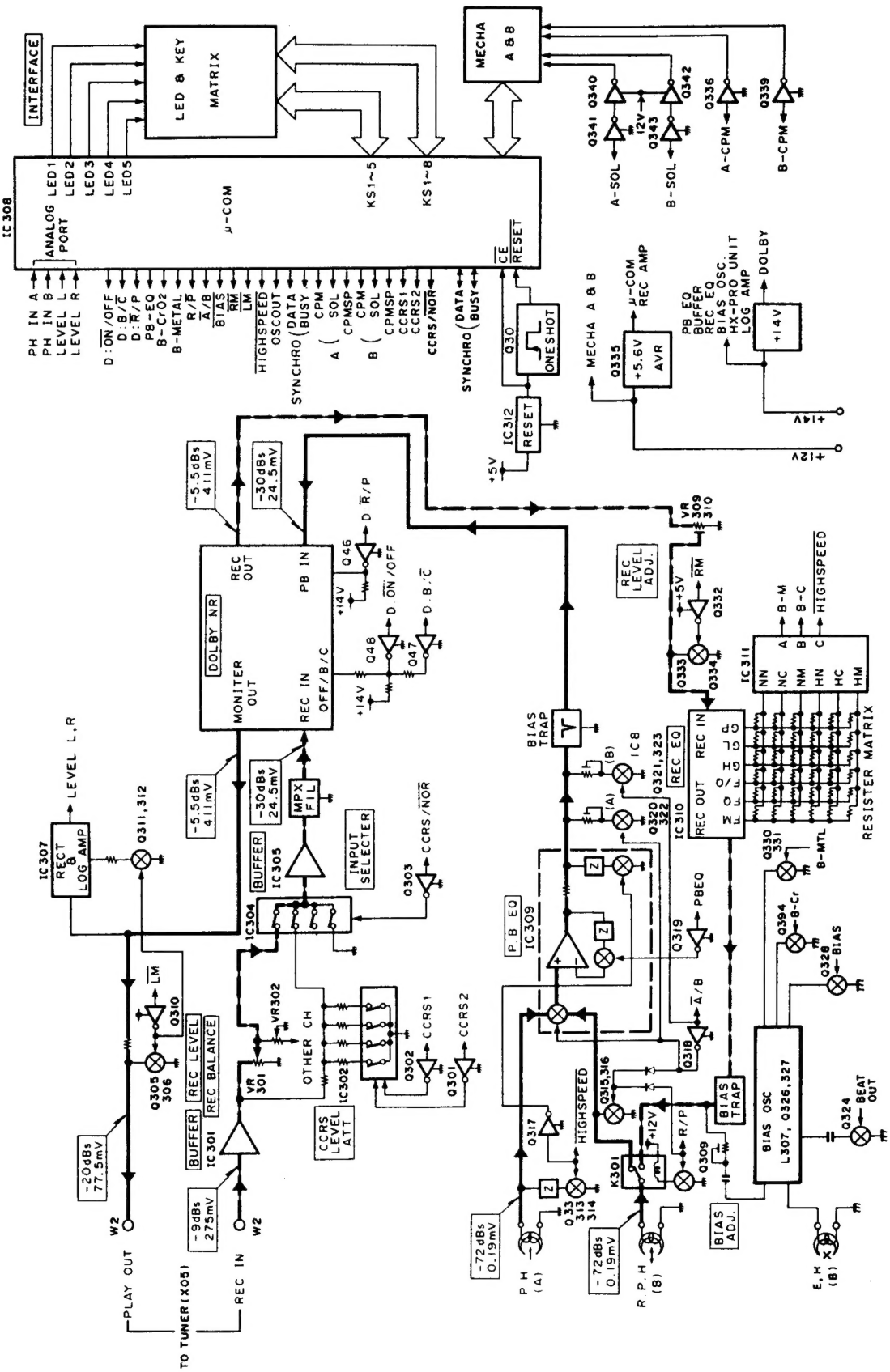
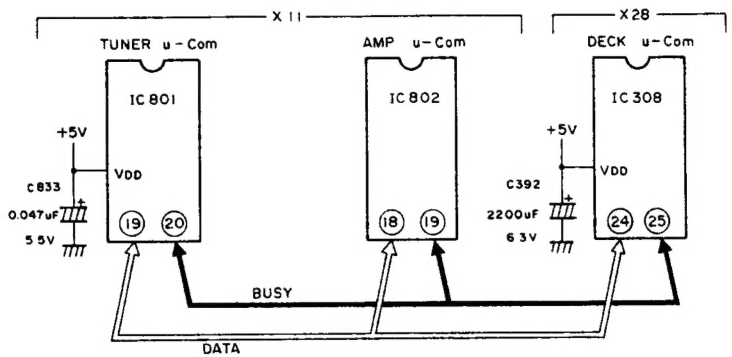
BLOCK AND LEVEL DIAGRAM

DECK SECTION (X28-)



CIRCUIT DESCRIPTION

Microprocessor and Back-up Condenser of the System



Microprocessor initialization (reset) and test mode

	TUNER μ-com	**AMP** μ-com	**DECK** μ-com
	IC801 (X11)	IC802 (X11)	IC308 (X28)
	μPD7538AC-045	μPD7538AC-052	M50941-338SP
Backup condenser	C823 0.047μF/5.5V	None	C392 2200μF/6.3V
Initialization (reset)	Insert an AC plug into an AC outlet while pressing "MEMORY" key.	Turn the power ON after getting power supply from the AC outlet.	Turn the Power ON. (Other than DIRECTION of head)
Test mode	All FL tubes are lit up when the pin No.15 is placed at "H" position. (No TEST pin is available)	None	Refer to the operation of TEST 1. (Page 33)

CIRCUIT DESCRIPTION

COMPONENT FUNCTIONS

Deck unit (X28-225X-XX)

Refer to the circuit description for the P.C.B. other than this.

Ref. No.	Part name	Use	Operation/Condition/Compatibility
IC301	NJM4565L	INPUT BUFFER	Sets REC IN signal to low impedance.
IC302	TC4052BP	CCRS LEVEL SW	Attenuates recording to source volume when CCRS is operating.
IC304	TC4052BP	INPUT SELECTOR	Switches drive input in four steps: normal CCRS and OFF.
IC305	NJM4565L	MPX BUFFER	Drive the mutiplex pilot tone filter
IC306	CXA1100	B-TYPE DOLBY NR	
IC307	BA6138	LOG METER AMP	Rectifies and logarithmitically compress PLAY OUT signal
IC308	M50941-338SP	MICRO PROCESSOR	
IC309	LA3246	PLAYBACK EQ CONTROL	Selects playing output of drive A or B and amplifies it.
IC310	TC4051BP	REC EQ CONTROL	
IC311	CXA1198AP	REC EQ IC	Obtains recording equalization characteristics suitable for tape.
IC312	PST520F	RESET IC	Set CE to 0V when microprocessor power supply voltage is 4.2V or less.
Q301~303		ANALOG SWITCH LEVEL SHIFTER	Converts microprocessor output (0-5V) to 0-15V.
Q305,306		PLAYBACK MUTE	Controlled by Q310. REC only: ON
Q309		RELAY DRIVE	Controlled by PIN 16 of IC308. REC only: ON
Q310		MUTE DRIVE	Controlled by PIN 20 of IC308. REC only: OFF
Q311,312		LOGARITHMIC AMPLIFIER RELEASE TIME CONTROL	Controlled by Q310. ON when VU meter lights.
Q313,314		PLAYBACK FREQUENCY CHARACTERISTICS CONTROL	Controlled by PIN 21 of IC308. HI-SPEED only dubbing: OFF
Q315,316		PLAYBACK EQ INPUT MUTE (R)	Controlled by PIN 16 of IC308. On when drive A is operated

IC310

Due \ Pin No. / Mode	1	2	5	13	14	15
Nomal speed Normal	L	H	H	H	H	H
Nomal speed CrO_2	H	L	H	H	H	H
Nomal speed Metal	H	H	L	H	H	H
High speed Normal	H	H	H	L	H	H
High speed CrO_2	H	H	H	H	H	L
High speed Metal	H	H	H	H	L	H

H: 1.28V L: 0V

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CIRCUIT DESCRIPTION

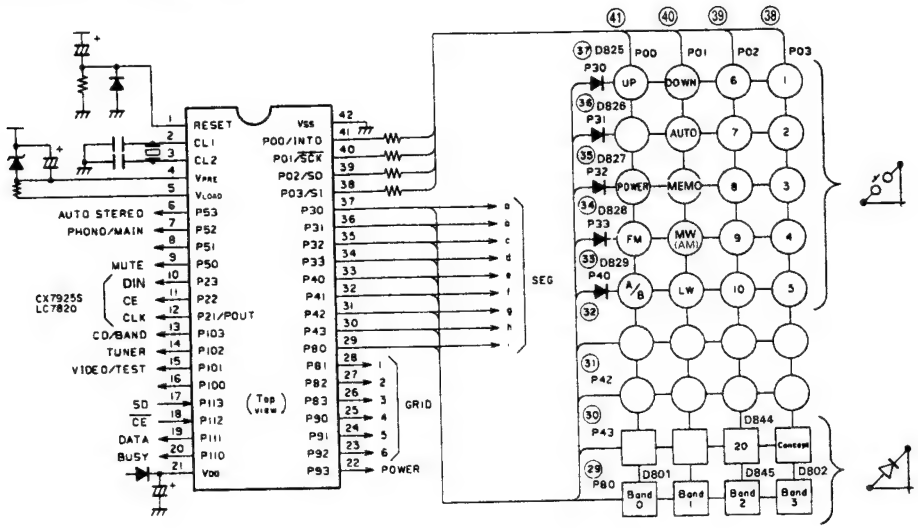
Ref. No.	Part name	Use	Operation/Condition/Compatibility
Q317		HIGH SPEED INVERTER	Controlled by PIN 21 of IC308. High-speed dubbing: OFF
Q318		PLAYBACK EQ A/B SW	Controlled by PIN 17 of IC308. On for drive B back.
Q319		PLAYBACK EQ 120μs	Controlled by PIN 13 of IC308. On when 120μs tape is played.
Q320~323		PLAYBACK LEVEL A/B SELECT	A DECK PLAYBACK Q320,321: ON Q322,323: OFF B DECK PLAYBACK Q320,321: OFF Q322,323: ON
Q324		BEAT CANCEL LEVEL SHIFTER	Controlled by S820 (X11) BEAT I: ON
Q325		BIAS OSC CONTROL	Controlled by Q328. REC only: ON
Q326,327		BIAS OSC (B)	Generates 105kHz with tank circuit of L307 and C358.
Q328		BIAS ON/OFF CONTROL	Controlled by PIN 18 of IC 308. REC only: OFF
Q329		CrO_2 BIAS CONTROL	Controlled by PIN 14 of IC308. Chrome tape REC: ON
Q330		NORMAL BIAS CONTROL	Controlled by Q331. Normal tape REC: ON
Q331		NORMAL BIAS CONTROL	Controlled by PIN 14 and 15 of IC308. Normal tape REC: ON
Q332		REC MUTE DRIVER	Controlled by PIN 19 of IC308. REC only: OFF
Q333,334		REC MUTE	Controlled by Q332. REC only: OFF
Q335		+5.6AVR	Converts 12V for mechanism to 5.6V for microprocessor.
Q336		MECHANISM (A) MOTOR CONTROL	Controlled by PIN 44 of IC308. STOP only: OFF
Q337		MOTOR SPEED CONTROL (A)	Controlled by Q338. High speed only: OFF
Q338		MOTOR SPEED CONTROL (A)	Controlled by PIN 42 of IC308. High speed only: OFF
Q339		MECHANISM (B) MOTOR CONTROL	Controlled by PIN 44 of IC308. STOP only: OFF
Q340		MECHANISM (A) SOLENOID CONTROL	Controlled by Q341. On when solenoid kicks.
Q341		MECHANISM (A) SOLENOID CONTROL	Controlled by PIN 43 of IC308. On when solenoid kicks.
Q342		MECHANISM (B) SOLENOID CONTROL	Controlled by Q343. On when solenoid kicks.
Q343		MECHANISM (B) SOLENOID CONTROL	Controlled by PIN 40 of IC308. On when solenoid kicks.
Q344		MOTOR SPEED CONTROL (B)	Controlled by Q345. High speed only: OFF
Q345		MOTOR SPEED CONTROL (B)	Controlled by PIN 39 of IC308. High speed only: OFF
Q346		MICROPROCESSOR RESET ONESHOT	Controlled by output of IC312. On for a certain time when power is turned on.
Q347~351		DISPLAY LED DRIVE	Controlled by PIN 53 to 57 (KS5 to KS1) of IC308
Q352,353		POWER ON RESET	Perform RESET in order to activate the IC308 when Power is turned ON.

CIRCUIT DESCRIPTION

IC801: μPD7538AC-045 (X11-299X-XX)

Tuner microprocessor

Terminal connection diagram & keymatrix connection



Functions of diodes and switches

Destination Type	Set Switches B3 B2 B1 B0	Band	Receiving Frequency Range	Inter-Channel Space	Intermediate Frequency	PLL IC3(LM7001) PLL Reference Frequency	PLL Input Terminal	PLL Output B02 (P8)	PLL Output B03 (P9)	Auto Tuning
J	0 0 0 0	FM	76.0 MHz ~ 90.0 MHz	100 kHz	– 10.75 MHz	25 kHz	FMIN	H	L	○
		AM	531 kHz ~ 1602 kHz	9 kHz	+ 450 kHz	9 kHz	AMIN	L	H	○
K, M1	1 0 0 0	FM	87.5 MHz ~ 108.0 MHz	100 kHz	+ 10.7 MHz	50 kHz	FMIN	H	L	○
		AM	530 kHz ~ 1610 kHz	10 kHz	+ 450 kHz	10 kHz	AMIN	L	H	○
M2	1 *a 1 0 0	FM	87.5 MHz ~ 108.0 MHz	50 kHz	+ 10.7 MHz	50 kHz	FMIN	H	L	○
		AM	531 kHz ~ 1602 kHz	9 kHz	+ 450 kHz	9 kHz	AMIN	L	H	○
E	1 1 0 1 *b	FM	87.5 MHz ~ 108.0 MHz	50 kHz	+ 10.7 MHz	50 kHz	FMIN	H	L	○
		MW	531 kHz ~ 1602 kHz	9 kHz	+ 450 kHz	9 kHz	AMIN	L	H	○
		LW	153 kHz ~ 281 kHz	1 kHz	+ 450 kHz	1 kHz	AMIN	H	H	*b ○

0: Without diode 1: With diode

*a) The KRX-69/89 of types M and Y, are modified into types E or K by replacing the rear panel inter-channel space with the CHANNEL SPACE SW (S1: X05), and by adding a diode (D845) for BAND 2.
Before changing the setting of this switch, first turn the POWER switch OFF.
If the setting of the switch is changed with the POWER switch ON, the channel spacing will not be changed.

*b) With the KRX-69/89 (type E), a diode (D801) is added for BAND 0, to allow for AUTO tuning in LW mode only.

CIRCUIT DESCRIPTION

Port allocation

Terminal NO.	Symbol	I/O Mode	Active Mode	Name	Function
1	RESET	I	H		Reset signal
2	CL 1	—	—		Clock
3	CL 2	—	—		Clock
4	VPRE	—	—		Power supply for FL display pre-driver
5	VLOAD	—	—		Power supply for FL display driver (—30V)
6	P 53	O	H	AUTO STEREO	MONO/STEREO key to control Stereo :L, Mono :H
7	P 52	O	H		
8	P 51	O	H		
9	P 50	O	H	MUTE	Muting signal
10	P 23	O	H	DIN	DATA output for PLL IC (LM7001)
11	P 22	O	H	LAT	LAT output for PLL IC (LM7001)
12	P21/POUT	O	H	CLK	CLK output for PLL IC (LM7001)
13	P103	O	H		
14	P102	O	H		
15	P101	O	H	TEST	Input port: TEST pin (H)
16	P100	O	H		
17	P113	I	H	SD	Station detection pin for auto tuning mode
18	P112	I	L	$\overline{CE}$	Back up detection pin
19	P111	I/O	H	DATA	Serial signal DATA pin
20	P110	I/O	H	BUSY	Serial signal BUSY pin
21	VDD	—	—	VDD	Power supply input pin (+5V)
22	P 93	O	H		Power pin
23	P 92	O	H	G6	FL display digit control pin: GRID 6
24	P 91	O	H	G5	FL display digit control pin: GRID 5
25	P 90	O	H	G4	FL display digit control pin: GRID 4
26	P 83	O	H	G3	FL display digit control pin: GRID 3
27	P 82	O	H	G2	FL display digit control pin: GRID 2
28	P 81	O	H	G1	FL display digit control pin: GRID 1
29	P 80	O	H	i	Key strobe signal output, FL display segment output: i
30	P 43	O	H	h	Key strobe signal output, FL display segment output: h
31	P 42	O	H	g	Key strobe signal output, FL display segment output: g
32	P 41	O	H	f	Key strobe signal output, FL display segment output: f
33	P 40	O	H	e	Key strobe signal output, FL display segment output: e
34	P 33	O	H	d	Key strobe signal output, FL display segment output: d
35	P 32	O	H	c	Key strobe signal output, FL display segment output: c
36	P 31	O	H	b	Key strobe signal output, FL display segment output: b
37	P 30	O	H	a	Key strobe signal output, FL display segment output: a
38	P03/SI	I	H		Key return signal input
39	P02/SO	I	H		Key return signal input
40	P01/$\overline{SCK}$	I	H		Key return signal input
41	P00/INTO	I	H		Key return signal input
42	V_{SS}	—	—	V_{SS}	GND

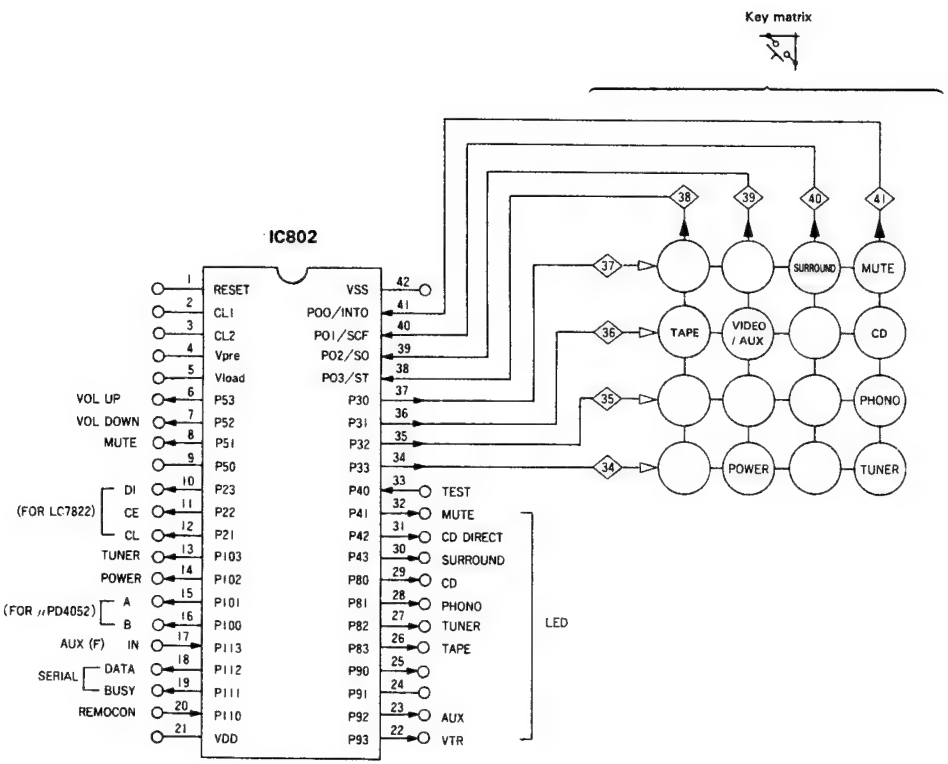
Initial mode

Tuning mode ..... AUTO	Band ..... FM	Receiving frequency: Minimum	
Preset channel ..... A	Preset channel memory ..... – (Blank)		

CIRCUIT DESCRIPTION

IC802: μPD7538AC-052 (X11-299X-XX)

Amplifier microprocessor



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CIRCUIT DESCRIPTION

Initial Setting State:

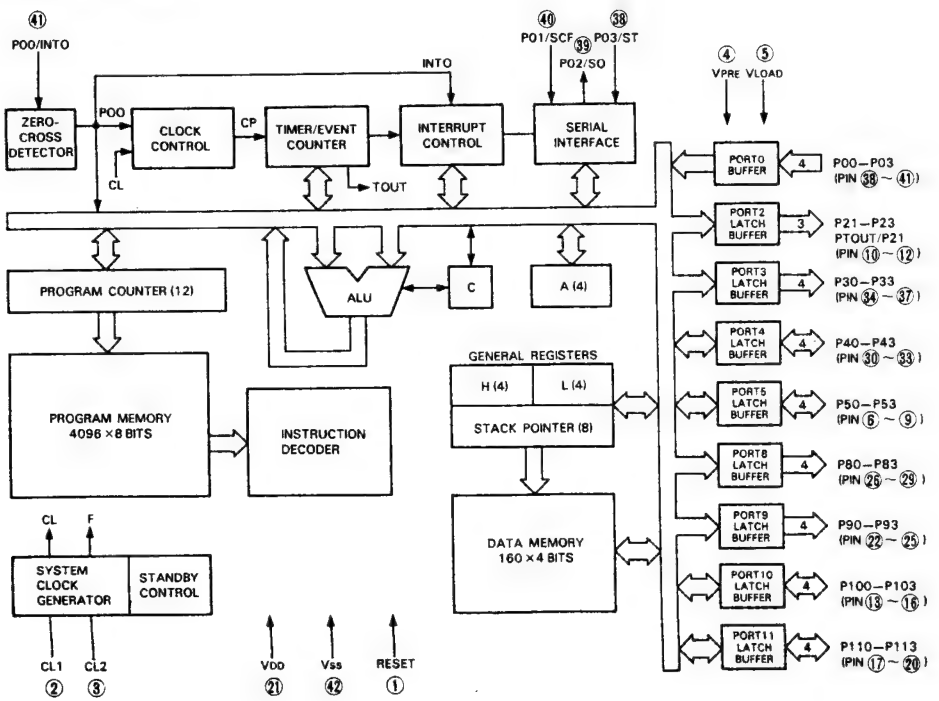
State	Selector setting	Selector IC output	LED indication
When Acc plugged in (Power switch OFF)	○ Audio system Tuner ○ Visual system VTR ○ CD direct OFF ○ Surround effect OFF ○ Muting ON	No output	All OFF
When Acc plugged in (Power switch ON)	Above settings. Muting OFF 5 seconds later	IC202.....TUNER	TUNER

Pin Functions:

Pin. No.	Pin name	I/O	Active mode	Signal name	Description
1	RESET	—	H	—	Reset pin, active "H"
2	CL1	—	—	—	Clock pin
3	CL2	—	—		
4	Vpre	—	—	—	N.C.
5	Vload	—	—		
6	P53	O	L or H	VOL UP	Volume up/down pin, Motor drive IC control P53 P52 L H Vol down H L Vol up
7	P52	O	L or H	VOL DOWN	
8	P51	O	H	MUTE	Mute pin, active "H"
9	P50	—	—	—	Relay control, N.C.
10	P23	O	H	DI	Selector IC (LC7822), Data output
11	P22	O	H	CE	
12	P21	O	H	CL	
13	P103	O	L or H	$\overline{\text{TUNER}}$	Selector TUNER. . . "L", Otherwise. . . "H"
14	P102	O	H	POWER	Relay control, active "H"
15	P101	O	L or H	VA	Selector IC strobe port, Image control IC (μPD4052), Selector IC data VA VB H H AUX (F) H L AUX (R) L H DAT L L VTR
16	P100	O	L or H	VB	
17	P113	O	L or H	AUXF	AUX (F) push switch input AUX (F). . . L AUX (R) . . . H
18	P112	I/O	H	DATA	Serial communication data, BUSY I/O
19	P111	I/O	H	BUSY	
20	P110	I	H	REMOCON	Remote control input port
21	V_{DD}	—	—	V_{DD}	+B (+5 V)
22	P93	O	H	VTR	LED indication
23	P92	O	H	VIDEO AUX	
24	P91	O	H	DAT	
25	P90	O	H	TAPE A	

Pin. No.	Pin name	I/O	Active mode	Signal name	Description
26	P83	O	H	TAPE B	LED indication
27	P82	O	H	TUNER	
28	P81	O	H	PHONO	
29	P80	O	H	CD/CDV	
30	P43	O	H	SURROUND	
31	P42	O	H	CD/CDV DIRECT	
32	P41	O	H	MUTE	LED indication which in flickers for power ON muting, mute key or volume up/down operation
33	P40	—	H	TEST	
34	P33	O	H	KEY DIGIT	Key scan output
35	P32	O			
36	P31	O			
37	P30	O			
38	P03	I	H	KEY RETURN	Key return input
39	P02	I			
40	P01	I			
41	P00	I			
42	Vss	—	—	—	GND

Internal Block Diagram



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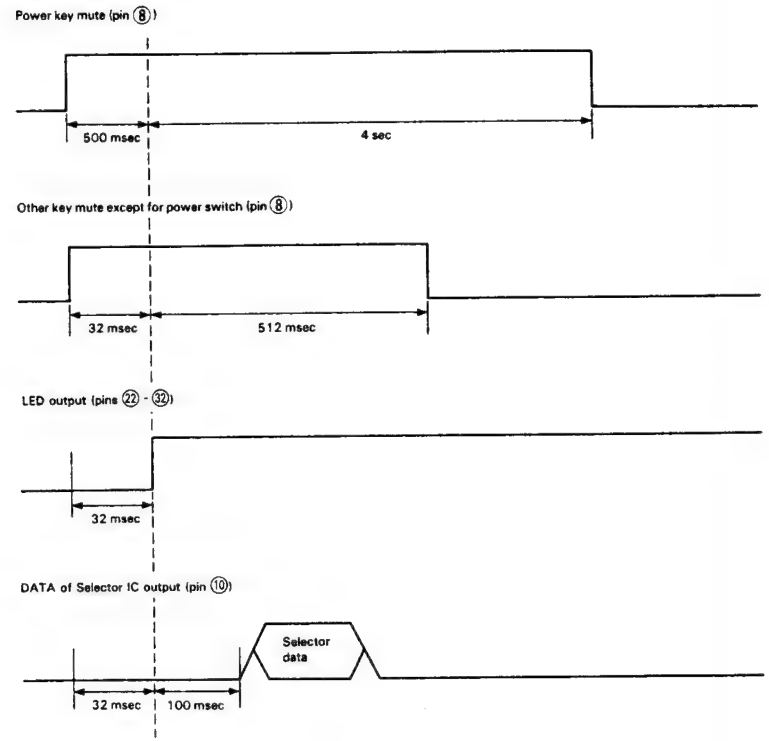
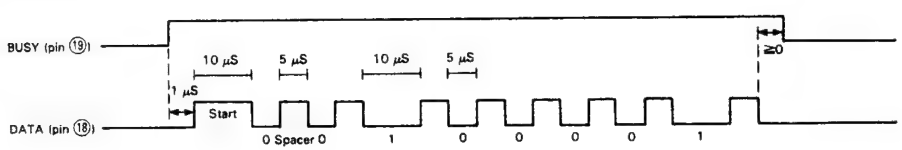
CIRCUIT DESCRIPTION

Time Chart:

- **Mute**



- **Serial communication**



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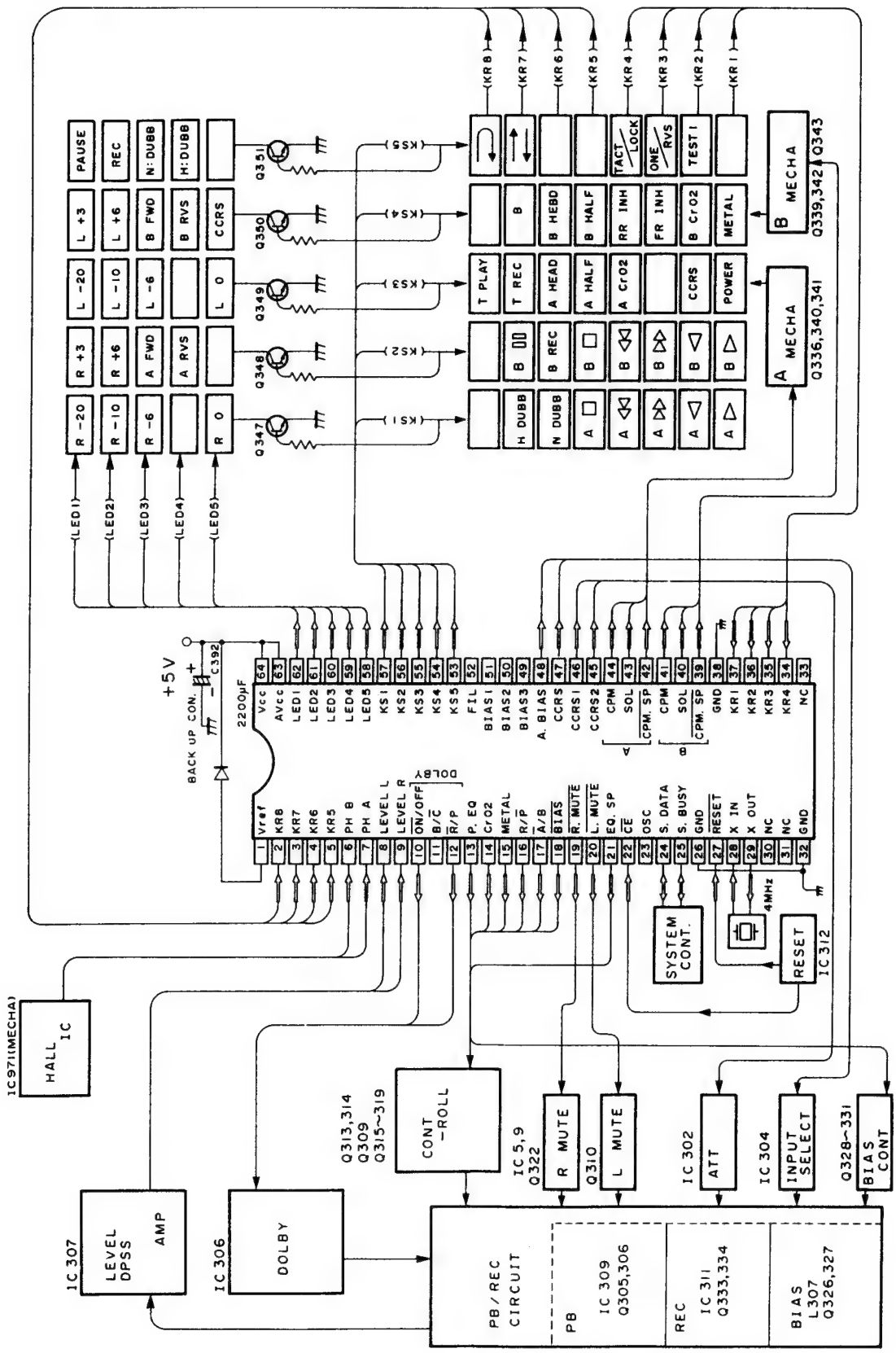
CIRCUIT DESCRIPTION

IC308: M50941-338SP (X28-225X-XX)

Cassette deck microprocessor



CIRCUIT DESCRIPTION

Pin Description

Pin. No.	I / O	Name	Function
1	O	VREF	Reference power for internal A/D converter
2	I	KR8	Key return
3	I	KR7	Key return
4	I	KR6	Key return
5	I	KR5	Key return
6	I	PHINB	Deck B rotation detection
7	I	PH IN A	Deck A rotation detection
8	I	LEVEL L	Left channel playback signal detection
9	I	LEVEL R	Right channel playback signal detection
10	O	DOLBY $\overline{ON}$/OFF	Dolby in/out switching
11	O	DOLBY B/$\overline{C}$	Dolby B/C switching Unused
12	O	DOLBY R/$\overline{P}$	Dolby REC/ PLAY switching
13	O	P. EQ	Playback equalizer switching
14	O	CrO2	Recording equalizer switching
15	O	METAL	Recording equalizer switching
16	O	R/$\overline{P}$	Record/playback circuit switching
17	O	$\overline{A}$/B	Head switching
18	O	BIAS	Bias generation on/off
19	O	$\overline{REC}$ MUTE	REC MUTE on/off
20	O	$\overline{LINE}$ MUTE	Line mute on/off
21	O	EQ SP	Recording equalizer speed switching
22	I	$\overline{C.E.}$	Backup detection
23	O	OSC. OUT	Internal generation output for auto bias Unused
24	I/O	S. DATA	Serial data
25	I/O	S. BUSY	Serial busy
26	O	GND	Microcomputer chip mode selection
27	I	$\overline{RESET}$	Reset (Low reset)
28	I	X IN	Clock for microcomputer
29	O	X OUT	Clock for microcomputer
30	I		Clock for microcomputer (for clock) Unused
31	O		Clock for microcomputer (for clock) Unused
32	O	GND	Power supply
33	O		Microcomputer system clock output Unused
34	I	KR 4	Key return
35	I	KR 3	Key return
36	I	KR 2	Key return
37	I	KR 1	Key return
38	O	GND	Pulldown for ports (P0, P1, and P2)
39	O	$\overline{CPM. SP}$	Deck B motor speed switching
40	O	SOLD	Deck B solenoid on/off
41	O	CPM	Deck B motor on/off
42	O	$\overline{CPM. SP}$	Deck A motor speed switching
43	O	SOLD	Deck A solenoid on/off
44	O	CPM	Deck A motor on/off
45	O	CCRS2	For CCRS and attenuator
46	O	CCRS1	For CCRS and attenuator
47	O	CCRS	Line input switching (for CCRS)
48	O	A. BIAS	Line input switching (for A-BIAS)
49	O	BIAS 3	Bias switching for auto bias Unused
50	O	BIAS 2	Bias switching for auto bias Unused
51	O	BIAS 1	Bias switching for auto bias Unused
52	O	OSC FIL	Internal generation filter switching for auto bias Unused
53	O	KS 5	Key scan
54	O	KS 4	Key scan
55	O	KS 3	Key scan
56	O	KS 2	Key scan
57	O	KS 1	Key scan
58	O	LED 5	LED drive scan
59	O	LED 4	LED drive scan

CIRCUIT DESCRIPTION

Pin. No.	I / O	Name	FUNCTION
60	O	LED 3	LED drive scan
61	O	LED 2	LED drive scan
62	O	LED 1	LED drive scan
63	O	AVCC	Internal A/D converter
64	O	VCC	Power supply

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CIRCUIT DESCRIPTION

1. The microprocessor is a Mitsubishi M509041-338SP (8-bit, 8-kbyte ROM). The control mechanism is a Matsushita AR-300.
2. Normal operations
   Recording is possible only on deck B; playback, and fast winding in either direction are possible on both decks A and B.
3. DPSS
   Various music selection operations are performed by pressing two keys together or by pressing keys during operation.
4. CCRS
   Optimum recording level (4 steps) is set when the deck is connected to a CD player that supports serial communication.
5. Serial communication
   The bi-directional serial bus allows full remote control, easy operation, and synchronous recording.

Conditions for each model

	Double drive		Single drive			
	REVERSE	ONEWAY	REVERSE	ONEWAY	CCRS	AUTO BIAS
KX-W6020	○	×	–	–	○	○
KX-79CW KRX-69/89	○	×	–	–	○	×
KX-69 W	×	○	–	–	○	×

CIRCUIT DESCRIPTION

Key Matrix

	KS 1	KS 2	KS 3	KS 4	KS 5
KR 1	A ▷	B ▷	POWER	B. METAL *	TEST 2
KR 2	A ◁	B ◁	CCRSB. CrO_2 *	B. CrO_2	TEST 1
KR 3	A ▷▷	B ▷▷		B. F RECINH *	ONE/RVS
KR 4	A ◁◁	B ◁◁	A CrO_2 *	B. R. RECINH *	TACT/LOCK
KR 5	A □	B □	A HALF *	B. HALF *	—
KR 6	N. DUBB	B %	A. HEAD MODE *	B. HEAD MODE *	—
KR 7	H. DUBB	B □□	TIMER REC	DOLBY NR (B)	⇄
KR 8			TIMER PLAY		⮌

a. Blank columns are ignored.
b. A and B indicate decks A and B, respectively.
c. ONE/RVS is undirectional (one-way) deck when there is a diode.
Tact/lock corresponds to the tact switch (power switch) when there is a diode.
(1) The mode switch of the Tact/lock is also used to identify the double drive and single drive.
(2) When the undirectional deck is selected, the play switch uses the reverse play (◁) as the play switch (▷).
(3) The terms with mark * represent mechanical SW, and their logic are as follows: Low ➡ ON, High ➡ OFF.

LED Matrix

	KS 1	KS 2	KS 3	KS 4	KS 5
LED 1	R. — 20	R. + 3	L. — 20	L. + 3	B. PAUSE
LED 2	R. — 10	R. + 6	L. — 10	L. + 6	B. REC
LED 3	R. — 6	A. FWD	L. — 6	B. FWD	N. DUBB
LED 4		A. RVS		B. RVS	H. DUBB
LED 5	R. 0		L. 0	CCRS	

a. The —20dB indicator changes to ∞ dB and lights all the time when a unidirectional deck is used.
b. The FWD and RVS indicators are used for a unidirectional deck.

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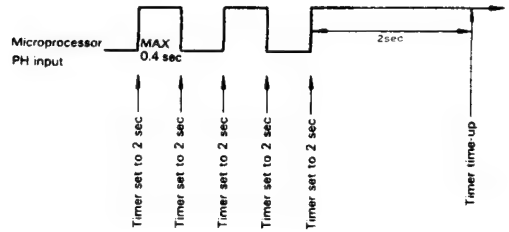
CIRCUIT DESCRIPTION

-1 Auto stop

In a tape travel status other than STOP, REC PAUSE and PLAY PAUSE, when the signal from the photo-reflector attached to the mechanism reel stand keeps "H" or "L" for more than 2 sec the tape stops or the head is reversed.
As shown above, each time that the output of the photo-reflector attached to the rear side of the reel stand is reversed, the software timer of which the set time is 2 sec is started. When the reel stand is rotating, that is when the output of the photo-reflector is reversed within 2 sec, the timer is successively updated so that the timer does not stop.
When the output of the photo-reflector keeps a fixed value for more than 2 sec the timer operates. Then, this operation is detected and the auto stop process is performed.



-2 Relay play and relay recording

(1) With the reverse mode switch set to ⇄ or ⮌ and cassettes loaded in both decks, when the deck in play reaches the tape end, the other deck starts play.
i) ⇄: When the deck in play reaches the end of that side of the tape, this deck rewinds the tape. In this connection, when the other deck is in stop, the playback in the head direction displayed at present is entered.
ii) ⮌: When the deck in play reaches the end of the reverse (rear) side of the tape, this deck stops. In this connection, when the other deck is in stop, the forward play (FWD PLAY) is entered.

—3 Timer Function

If the power is turned On with the timer switch set to PLAY or REC, the appropriate operation starts after an initial delay period (about 4 seconds). In timer recording mode, about 1.5 seconds after the power comes On, the TUNER PLAY 28H signal is output to set the input selector of the amplifier to TUNER.

CIRCUIT DESCRIPTION

CCRS

(1) Outline of functions
Plays a specific part of a CD, reads the level, adjusts (attenuates) the recording level to the optimum value, and after completion of the search, starts synchronous recording.

(2) Operation method
a) Load a disc in the CD player and load an unprotected cassette in the deck.
b) Set REC OUT on the amplifier to CD.
For the system controller receiver, set INPUT to CD and TAPE2 to OFF.
c) Press the CCRS key on the deck.

(3) Outline of operations (See flowchart for details).
(1) DECK
• When the CCRS key is on ----------
If there is an unprotected cassette in drive B, the CCRS start code is output. If a CD standby code is received within 30 seconds of this, the next operation is performed. If no CD standby code is received, the DECK STOP code is output, and the deck returns to its initial state.

• When CD standby is received ----------
The recording input is switched to CCRS, and after ARM for about 8 seconds, REC PAUSE is set and detection of the input level is started. At the same time, the DEC CD REC code is output.

• When CD standby is received ----------
The current level is fixed, the deck standby code is output, and REC is entered.
* If the second CD standby code is not received within 3 minutes of the first CD standby being received, the DECK STOP code is output and the deck returns to its initial state.

(2) CD player
• When CCRS start is received ---------
Determines whether a disc is loaded. If no disc is loaded, the CD STOP code is output. If a disc is loaded, the CD standby code is output and search starts. Fast forward play is performed for the last minute of the track. The output level when this is done is the same as the normal level.
When all the tracks end, the CD standby code is output again, and the CD player enters the standby state.

• When deck standby is received ---------
The standby state is released and playing starts from the first track or program step.

(4) Inhibition of keys during CCRS (while the level is set)

• CD player---All keys other than OPEN/CLOSE and STOP are inhibited.

• DECK All keys other than B-STOP, A-FF, A-RWD, and A-STOP are inhibited.

(5) CCRS cancellation

(1) When the level is being set
• CD player: STOP and OPEN/CLOSE keys
• Deck: B-STOP key, B-EJECT

(2) After the level is set
• Normal CD player: OPEN/CLOSE key
• CD changer: STOP and OPEN/CLOSE keys

(6) CCRS Indicator

• DECK When the level is being set: CCRS indicator flickers.

After the level has been set: CCRS indicator lights continuously.

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CIRCUIT DESCRIPTION

(7) CD recording method after the CCRS level has been set

(1) Operation • CD player: Select a track, then PAUSE.
• Deck: Press the CCRS key.

(2) Operation after about an 8-second ARM, the deck sets the recording level and starts recording, and the CD player enters PLAY.
If PLAY or REC is performed manually, recording is done with the normal recording level (manual). When the amplifier outputs a selector code and the selector determines the CD player, recording is done with the fixed level.

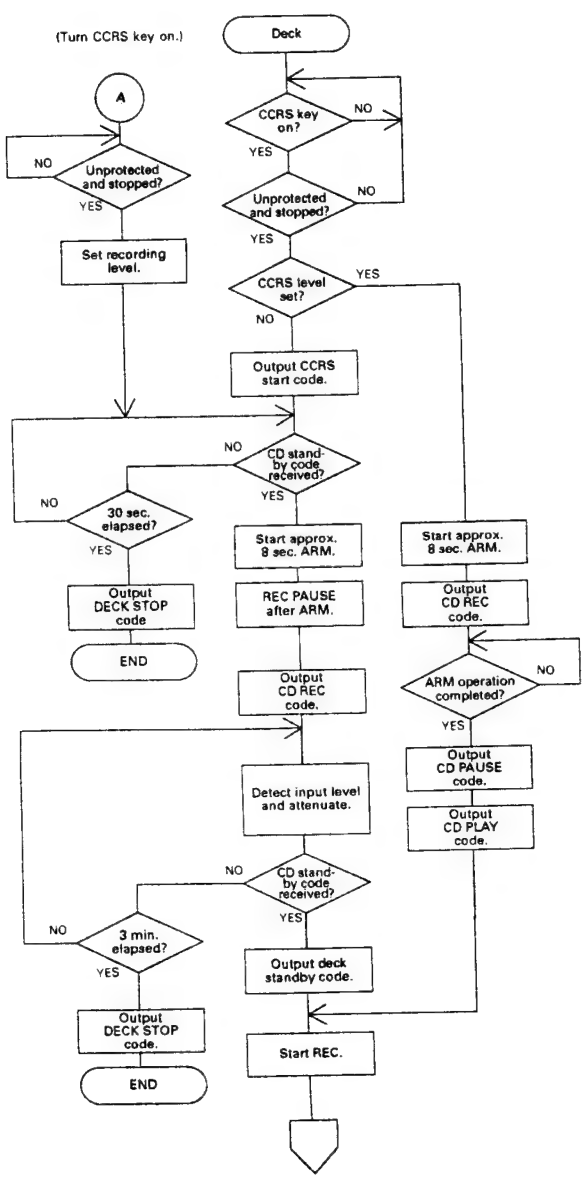
(8) Correspondence to CD player with edit function

Edit type \ Deck type	ONEWAY	REVERSE DECK
• Single-side edit	1. Edit with CD player. 2. Press CCRS key. 3. When one side has ended, replace the tape and perform remain edit with CD player. 4. Press the CCRS key.	1. Edit with CD player. 2. Press CCRS key. 3. Reverse tape direction, and perform remain edit with CD player. 4. Press CCRS key.
• Double-side edit	1. Edit with CD player. 2. Press CCRS key. 3. When side A has ended, enter PAUSE at the first track of side B. Replace the tape. 4. Press CCRS key.	1. Edit with CD player 2. Press CCRS key. 3. When side A has ended, the CD player enters PAUSE at the first track of side B. The deck reverses to record on side B, and after an 8-second ARM, starts recording and plays the CD.

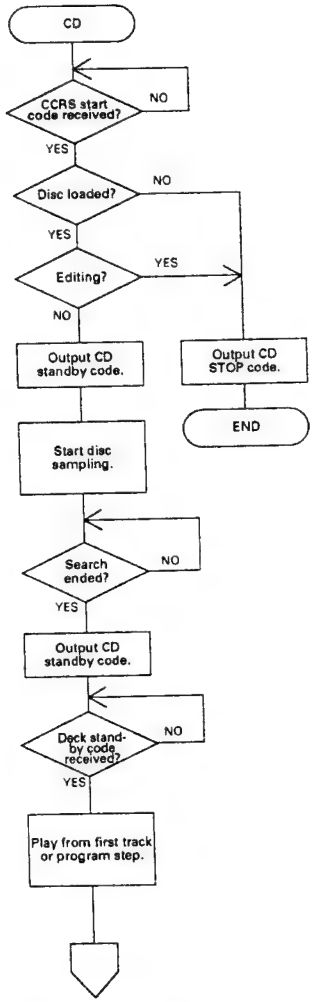
(9) Support of 1990 system controller and CD changer or CD player in XS system control

(1) CCRS uses the CCRS key on the DP side. The deck sets the recording level, and performs the same operations as already described.

CCRS operation flowchart



Normal CD REC.



Normal CD play

Status transition table

Auto stop

Operation mode \ Reverse mode		⇄ A	⇄ B	⊃ A	⊃ B	↻ A	↻ B
Normal operation	FOR PLAY	When there is no cassette in that drive: STOP	←	REV PLAY		REV PLAY	
	REV PLAY	When there is a cassette in that deck: STOP	←	STOP		FOR PLAY	
	FF	STOP	←				
	RWD	STOP	←				
	FOR REC	——	STOP	——	REV if REV REC is OK. Other-wise, STOP.	——	REV if REV REC is OK, Other-wise,STOP
	REV REC	——	STOP	——	STOP		STOP
DPSS	ONE-TUNE REPEAT	STOP	←				
	AUTO REC MUTE, RE REC STANDBY	——	STOP		STOP	——	STOP —
	REW PLAY	FF search	←				
	FF search RWD search Index scan	STOP	←	The tape is reversed, and the operation continues. When both sides have been searched, the tape stops.			
DASH & PLAY	FOR PLAY	RWD	←	REV PLAY			
	REV PLAY	FF	←	STOP		FOR PLAY	
	FOR CUE	RWD	←	REV PLAY			
	REV RVW	FF	←	STOP		FOR PLAY	
	RWD	FOR CUE	←				
	FF	REV REV	←				
DUBS	FOR PLAY (A) FOR REC (B)	STOP	←	REV PLAY	REV REC	REV PLAY	REV REC
	REV PLAY (A) REV PLAY (B)	STOP	←				

CIRCUIT DESCRIPTION

Initial conditions

Item	Condition	Pin No.	Pin logic
$\overline{A}$/B	B	17	High
$\overline{\text{LINE MUTE}}$	ON	20	Low
$\overline{\text{REC MUTE}}$	ON	19	Low
EQ SP	NORMAL	21	High
BIAS (B)	OFF	18	High
R/$\overline{P}$ (B)	PLAY	16	Low
DOLBY $\overline{ON}$/OFF	OFF	10	High
DOLBY $\overline{R}$/P	PLAY	12	High
BIAS	BIAS 3	49	High
OSC OUT	OFF	23	Low
OSC FIL (400/$\overline{10K}$)	10 K	52	Low
CCRS	NORMAL	47	Low
CCRS 1	OFF	46	Low
CCRS 2	OFF	45	Low
P. EQ	70 uS	13	Low

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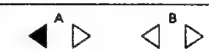
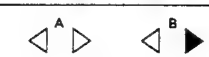
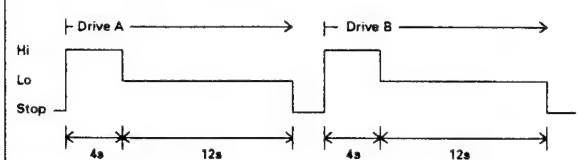
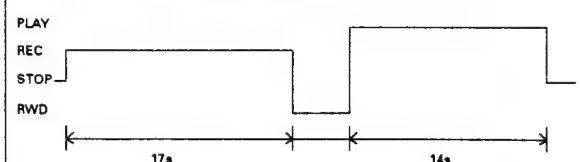
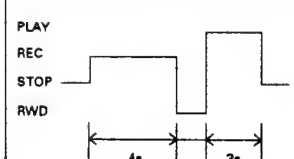
CIRCUIT DESCRIPTION

Test Mode (TEST 1)

The system enters this test mode when KS5 (pin 53) and KR2 (pin 36) are shorted together with a diode and the power is turned on.

Cancel method: Press the PAUSE key to cancel the test mode.

* Since TEST 2 is only used in manufacturing process, it is not available for normal use.

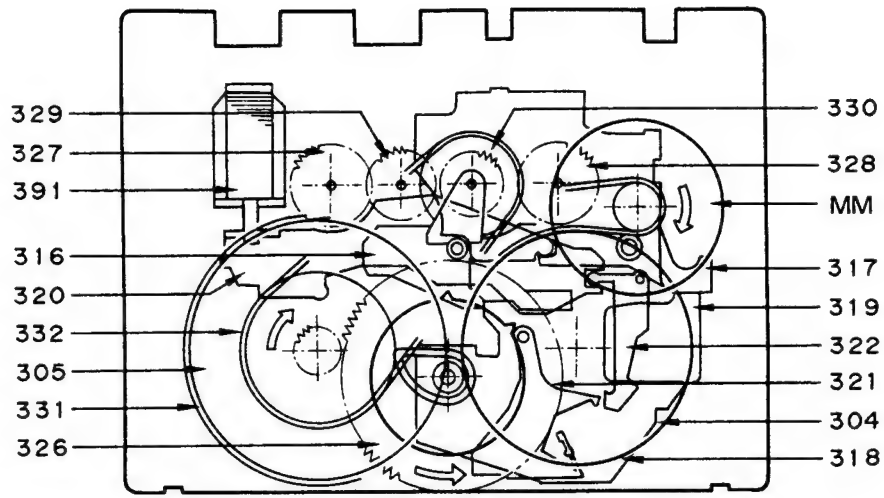
Mode No.	Timer switch position	KEY	Operation
1	—	—	All indicators light for about 1.5 seconds. Keys are enabled after the indicators go out.
2	—	→ ←	DIRECTION switch check 
	—	←	
	—	→	
3	—	—	REC INH switch check (in mechanical stop only) { F (side A) unprotected: Left channel +6dB lights. R (side B) unprotected: Right channel +6dB lights.
4	PLAY	—	
5	REC	—	
6	—	○/□□	 * Record for 4 seconds, rewind, and play back.

CIRCUIT DESCRIPTION

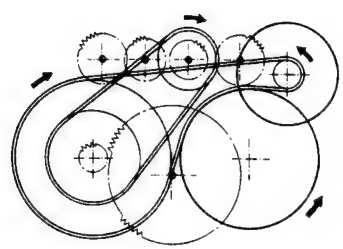
Mode No.	Timer switch position	Key	Operation
7	————	CCRS	If an unprotected cassette is loaded in deck B (deck A is stopped), the deck starts recording. The deck samples the input level, and if it is more than +5dB, the deck reduces the attenuator (in four steps). The deck stops automatically after 3 minutes.

* Modes 1, 4, and 5 work when the power is applied or the power switch is turned On.
* Keys other than those above operate as usual.

MECHANISM DESCRIPTION



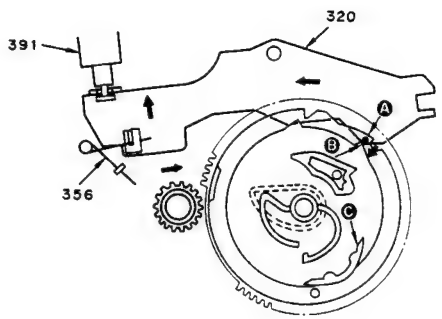
Pinch Roller Pressure:	220～320 g
Take-up Torque:	30～60 g·cm
FF. REW Torque:	70～125 g·cm
Back Tension Torque:	0.5～4.5 g·cm

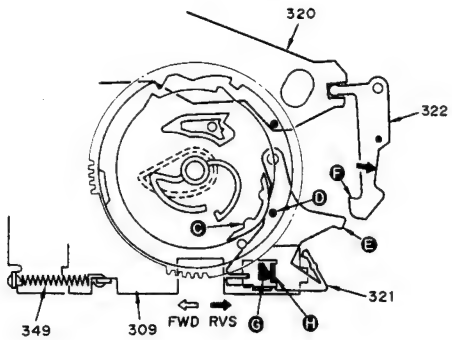


MECHANISM DESCRIPTION

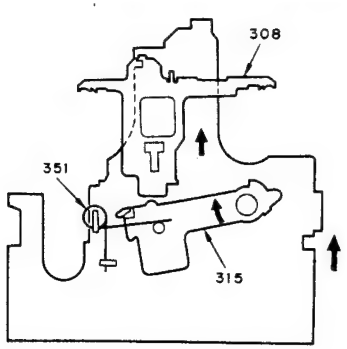
STOP to FWD PLAY/REC

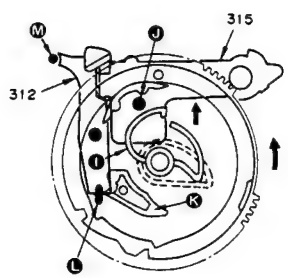
(1) Solenoid is energized.
(2) Trigger lever boss Ⓐ is released.
(3) Boss Ⓐ pushes protrusion Ⓑ.
(4) Main gear engages with flywheel gear.
(5) Cam Ⓒ pushes F/R lever boss Ⓓ.
(6) Boss Ⓒ pushes F/R rod claw Ⓗ.
(7) Solenoid is energized.
(8) Since part Ⓔ of the F/R lever is not locked with part Ⓕ of the relay lever, the F/R rod is returned to the FWD position by the spring.
(9) Solenoid is de-energized.





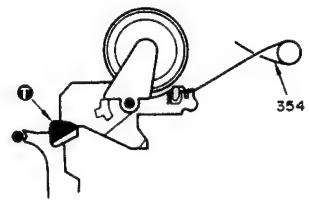
(10) Main lever boss Ⓙ is raised by cam Ⓘ.
(11) As the main lever rises, the brake rod and head base rise.



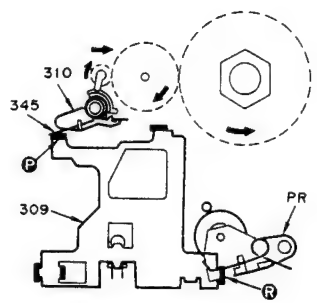


MECHANISM DESCRIPTION

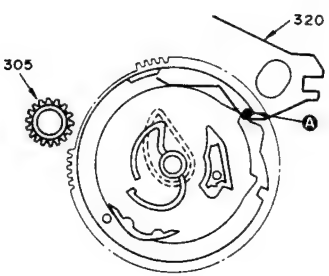
(12) Cam Ⓚ pushes lock lever boss Ⓛ, and the main lever is locked.
(13) Lock lever is locked by boss Ⓜ.



(14) Fast forward arm is fixed by lock lever boss Ⓣ and spring.
(15) As the head base rises, F/R rod claw Ⓟ pushes the rewind arm.
(16) The relay gear is tilted and engages with the take-up hub gear; the hub starts rotating.



(17) F/R rod claw Ⓡ pushes up the pinch roller spring, and the pinch roller presses against the capstan. Thus, FWD playback/recording occurs.
(18) The main gear continues to rotate, and trigger lever boss Ⓐ touches the stop and reaches the FWD playback/recording position.

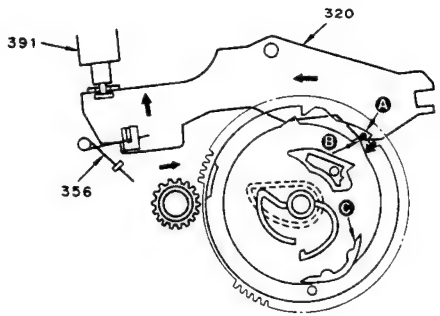


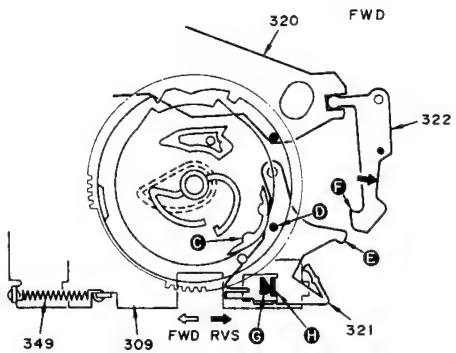
MECHANISM DESCRIPTION

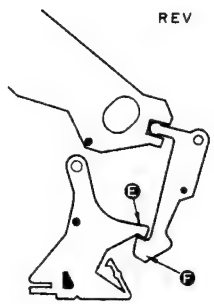
DRIVE MECHANISM DESCRIPTION

STOP to RVS PLAY/REC

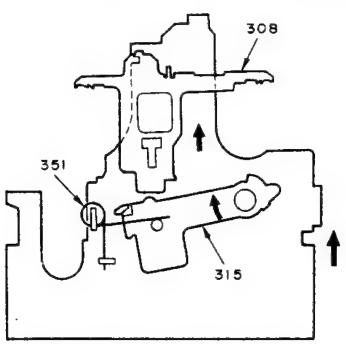
(1) Solenoid is energized then de-energized.
(2) Trigger lever boss Ⓐ is released.
(3) Boss Ⓐ pushes protrusion Ⓑ.
(4) Main gear engages with flywheel gear.
(5) Cam Ⓒ pushes F/R lever boss Ⓓ.
(6) Boss Ⓖ pushes F/R rod claw Ⓗ.
(7) Solenoid is de-energized.
(8) Part Ⓔ of the F/R lever locks with part Ⓕ of the relay lever.
(9) The F/R rod returns to the RVS position.

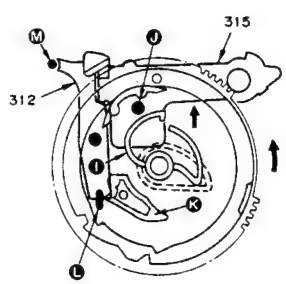






(10) Main lever boss Ⓙ is raised by cam Ⓘ.
(11) As the main lever rises, the brake rod and head base rise.





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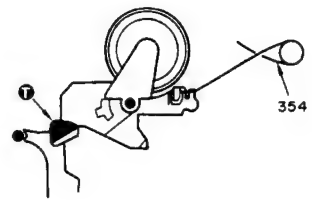
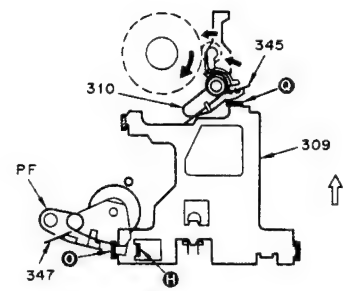
MECHANISM DESCRIPTION

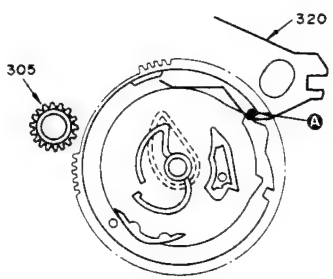
(12) Cam Ⓚ pushes lock lever boss Ⓛ, and the main lever is locked.
(13) Lock lever is locked by boss Ⓜ.



(14) The fast forward arm is fixed at the center by lock lever boss Ⓣ and spring.
(15) As the head base rises, F/R rod claw Ⓞ pushes the rewind arm.
(16) The relay gear is tilted and engages with the supply hub gear; the hub starts rotating.



(17) F/R rod claw Ⓞ pushes up the pinch roller spring, and the pinch roller presses against the capstan. Thus, RVS playback/recording occurs.
(18) The main gear continues to rotate, and trigger lever boss Ⓐ touches the stop and reaches the RVS playback/recording position.

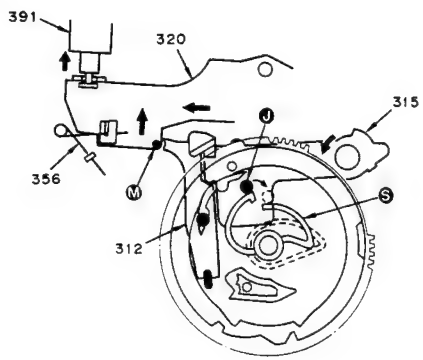


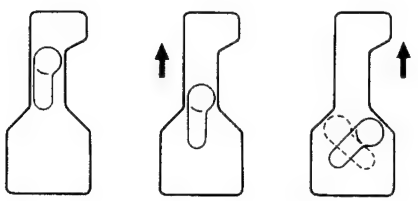
MECHANISM DESCRIPTION

STOP to FF/RWD

Steps 1 to 14 are the same as those for FWD PLAY.
(15) The solenoid is energized, and trigger lever boss Ⓜ is disengaged from the lock lever. The solenoid is de-energized immediately for FF, but remains energized for RWD.

(16) Main lever is disengaged from lock lever.
(17) Main lever boss Ⓙ goes down to the cam 8 position.
(18) The brake rod goes down to the position where the brake ceases to hold. The head base goes down to the FF/RWD position shown in the figure.

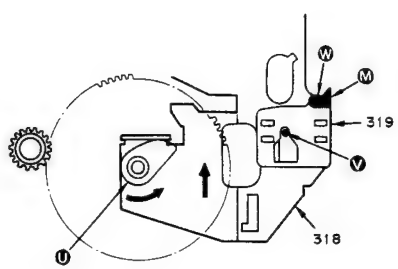


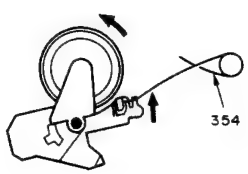


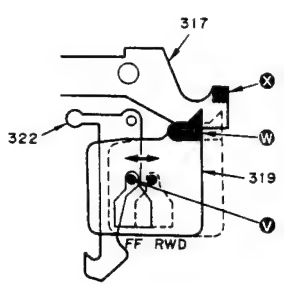
(19) Fast forward rod is lifted by main gear cam Ⓤ.
(20) FF
(FF-1) The selection rod on the fast forward rod has been moved to the FF position by fast forward relay lever boss Ⓥ because the solenoid is not energized.

(FF-2) The selection rod is lifted so that selection rod claw Ⓦ does not hit fast forward boss Ⓧ.

(FF-3) When the main gear rotates to the FF position, the fast forward arm is tilted to the FF direction by spring, and the hub starts rotating.







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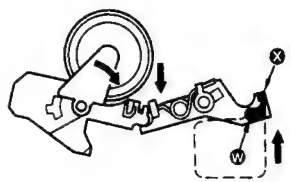
MECHANISM DESCRIPTION

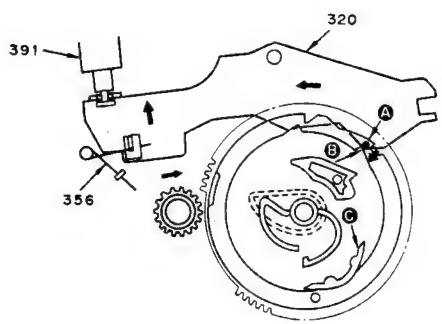
(REW-1)
The selection rod is in the REW position because the solenoid is energized.

(REW-2)
When the fast forward rod rises, selection rod claw Ⓦ touches fast forward lever boss Ⓧ. The fast forward lever moves as shown in the figure below. The fast forward arm is tilted to the REW position, and the hub rotates.



➡ STOP

(1) Solenoid is energized.
(2) All the locks are released, and the system returns to the STOP position (figure).
(3) Trigger lever boss Ⓐ stops at position of stop.



ADJUSTMENTS

<TUNER SECTION>

AM Section: If alignment point is "-", Confirm the value.
If not, replace the front end pack.

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION			SELECTOR: FM				
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, ±75kHz dev 60dBμ(ANT input)	Connect a DC voltmeter between TP3 and TP4. (X05-)	AUTO or MONO 98.0MHz	T3 (X05-)	0V	(a)
2	VCO	(A) 98.0MHz 0 dev 100dBμ(ANT input)	Connect a frequency counter between TP7 and GND. (X05-)	AUTO 98.0MHz	VR3 (X05-)	19.00kHz	(b)
3	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, ±68.25kHz dev Selector: L or R Pilot: ±6.75kHz dev 60dBμ(ANT input)	(B)	98.0MHz	IFT (Front end)	Minimum distortion.	
4	SEPARATION (E type only)	(C) 98.0MHz Stereo signal 60dBμ(ANT input)	(B)	AUTO 98.0MHz	VR4 (X05-)	Minimum crosstalk.	
5	TUNING LEVEL	(A) 98.0MHz 0 dev 14dBμ(ANT input) 75Ω	(B)	AUTO or MONO 98.0MHz	VR2 (X05-)	Adjust VR2 and stop at the point where FL1(TUNED) goes on.	
AM-MW SECTION			Keep the AM loop antenna installed.		SELECTOR: AM or MW		
(1)	BAND EDGE (1)	-	Connect a DC voltmeter between TP2(VT) and TP1(GND). (X05-)	530kHz (531kHz)	-	1.3V	(c)
(2)	BAND EDGE (2)	-	Connect a DC voltmeter between TP2(VT) and TP1(GND). (X05-)	1610kHz (1602kHz)	-	7.0V	(c)
(3)	RF ALIGNMENT	(D) 990kHz 400Hz, 30% mod 24dBμ(ANT input)	(B)	990kHz	L2 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	TUNING LEVEL	(D) 1000(990)kHz 26dBμ(ANT input)	(B)	-	VR1 (X05-)	Adjust VR1 and stop at the point where FL1(TUNED) goes on.	
AM-LW SECTION (E type only)			Keep the AM loop antenna installed.		SELECTOR: LW		
(5)	BAND EDGE (1)	-	Connect a DC voltmeter between TP2(VT) and TP1(GND). (X05-)	153kHz	-	2.3V	(c)
(6)	BAND EDGE (2)	-	Connect a DC voltmeter between TP2(VT) and TP1(GND). (X05-)	281kHz	-	7.0V	(c)
Repeat alignments (5) and (6) several times.							
(7)	RF ALIGNMENT	(D) 216kHz 400Hz, 30% mod 32dBμ(ANT input)	(B)	216kHz	L3 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	

<AUDIO SECTION>

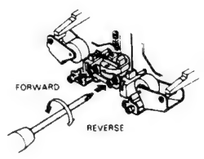
(1)	IDLE CURRENT	-	Connect a DC voltmeter across CP1 (L) CP2 (R) (X07-)	Volume: 0	VR601(L) VR602(R) (X07-)	10mV	(d)

ADJUSTMENTS

<DECK SECTION>

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	CASSETTE TAPE DECK SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
CASSETTE DECK SECTION		TAPE: NORMAL, DOLBY: OFF, INPUT: LINE				0dBs = 0.775V	
I REC/PLAY HEAD							
[1]	DEMAGNETIZATION	–	–	POWER: OFF Remove the cassette door.	REC/PLAY head	Demagnetize the REC/PLAY head with a head demagnetizer.	
[2]	CLEANING	–	–	PLAY	REC/PLAY head erase head, capstan, pinch roller.	Clean the REC/PLAY head erase head, capstan and pinch roller using a cotton swab slightly damped with alcohol.	
[3]	AZIMUTH	MTT-114, TCC-153 10kHz,-10dB	(B)	PLAY	Azimuth adjustment screw	Maximum output.	(e)
II PC BOARD							
(1)	TAPE SPEED (HI SPEED)	MTT-111, TCC-110 3kHz -4dB	(B)	Connect a jumper between GND and TP Ⓐ or Ⓑ of HI SPEED. PLAY	DECK A: VR312 DECK B: VR314 (X28-)	Adjust the tape speed so that a 6kHz signal is produced at the center of the tape.	
(2)	TAPE SPEED (NORMAL)	MTT-111, TCC-110 3kHz -4dB	(B)	PLAY	DECK A: VR311 DECK B: VR313 (X28-)	Adjust the tape speed so that a 3kHz signal is produced at the center of the tape.	
III PC BOARD							
<1>	PLAYBACK LEVEL	MTT-150 400Hz(200nWb)	(B)	PLAY	DECK A: VR303(L) VR305(R) DECK B: VR304(L) VR306(R) (X28-)	Output level: -6.5dBs	
		MTT-256,SCC-1727 315Hz(160nWb)				Output level: -9.0dBs	
		MTT-256U,TCC-160 315Hz(220nWb)				Output level: -5.5dBs	
<2>	BIAS CURRENT	(E) or INPUT : CD or VIDEO/AUX 1kHz,-30dBs 10kHz,-30dBs	(B)	Adjust REC level volume so that the REC monitor output becomes -29dBs at 1kHz, then record and reproduce signal of 1kHz and 10kHz in alternation.	DECK B: VR307(L) VR308(R) (X28-)	Record 1kHz and 10kHz in alternation and adjust the variable resistors which control the bias current so that the same playback level is obtained.	
<3>	BIAS OSCILLATING FREQUENCY	Load the non recorded tapes on Deck A and B.	Connect the AC voltmeter across TP3 and TP4(GND) (X28-)	REC	DECK B: L307 (X28-)	105kHz	(f)
<4>	BIAS LEAK	Load a non recorded tape on Deck A and B.	Connect the AC voltmeter across TP1(L) and GND or across TP2(R) and GND. (X28-)	Load a metal tape and dub in a high speed mode.	L305(L) L306(R) (X28-)	Adjust, to minimize both L and R readings.	(g)
<5>	RECORD LEVEL	(E) or INPUT : CD or VIDEO/AUX 1kHz, -10dBs	(B)	Record playback a 1kHz signal under the conditions set in <2>.	VR309 (L) VR310 (R)	Adjust the variable resistors so that a playback level of -9dBs is obtained.	

e) AZIMUTH ADJUSTMENT SCREW



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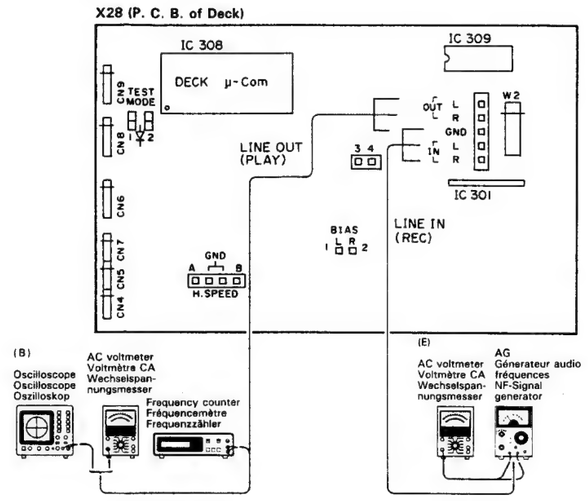
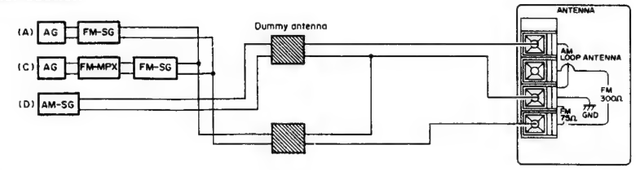
ADJUSTMENTS

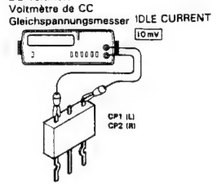
Deck section



Tuner section



Audio section



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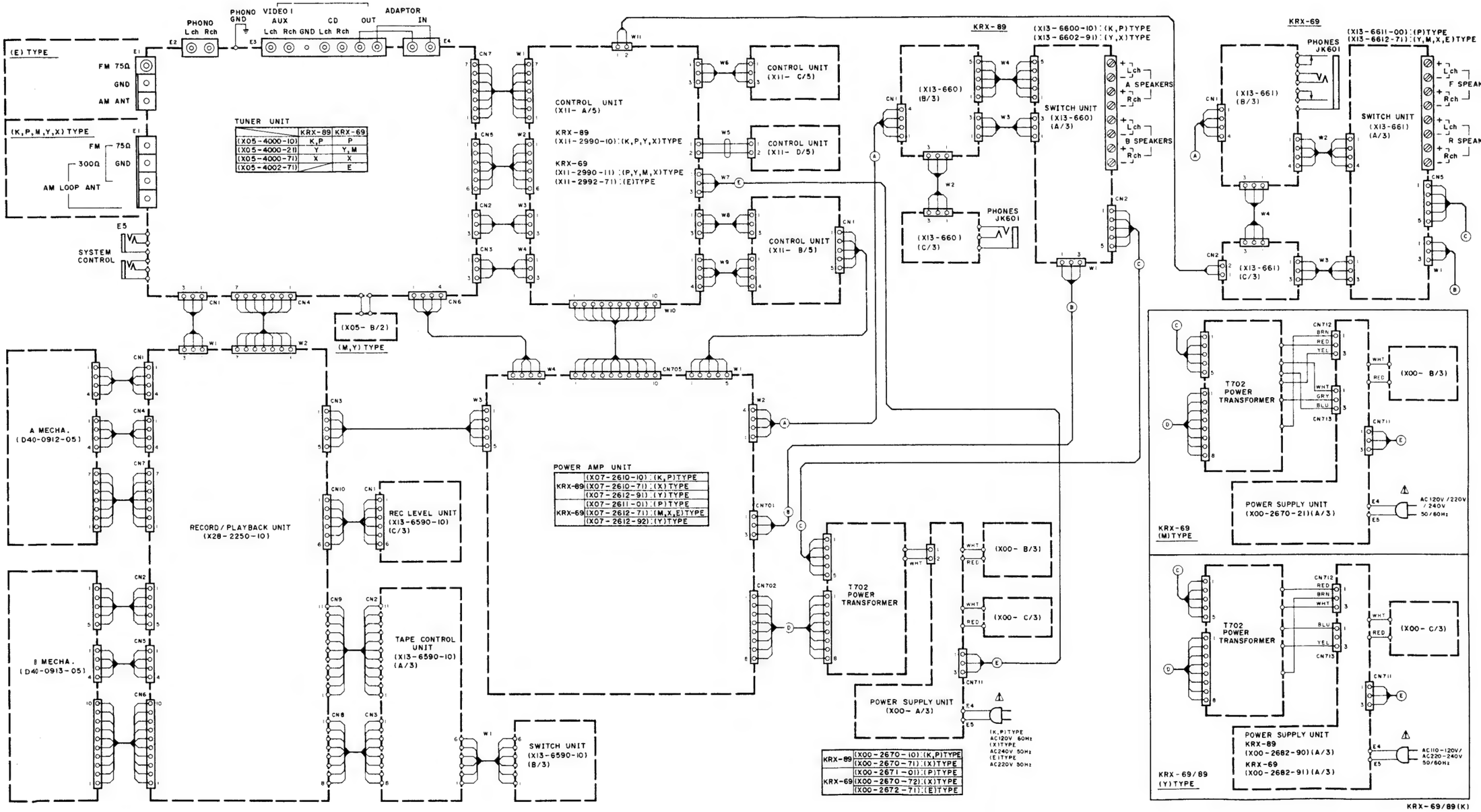
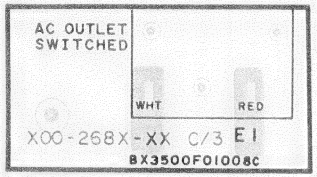
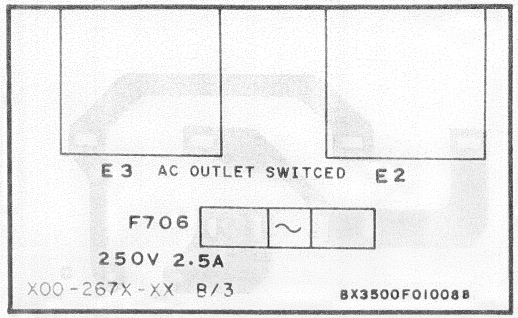
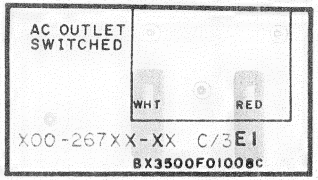
TOTAL WIRING DIAGRAM



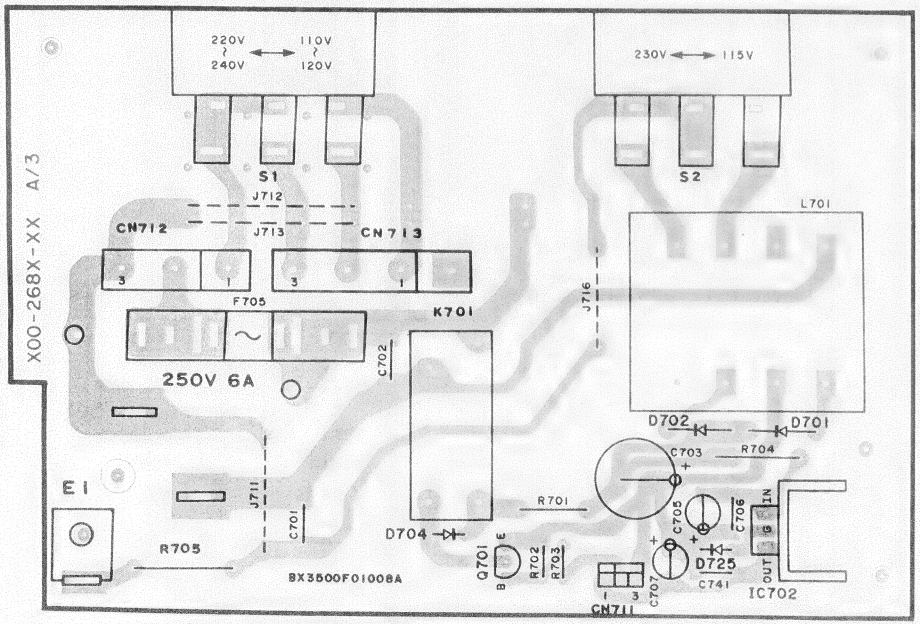
PC BOARD



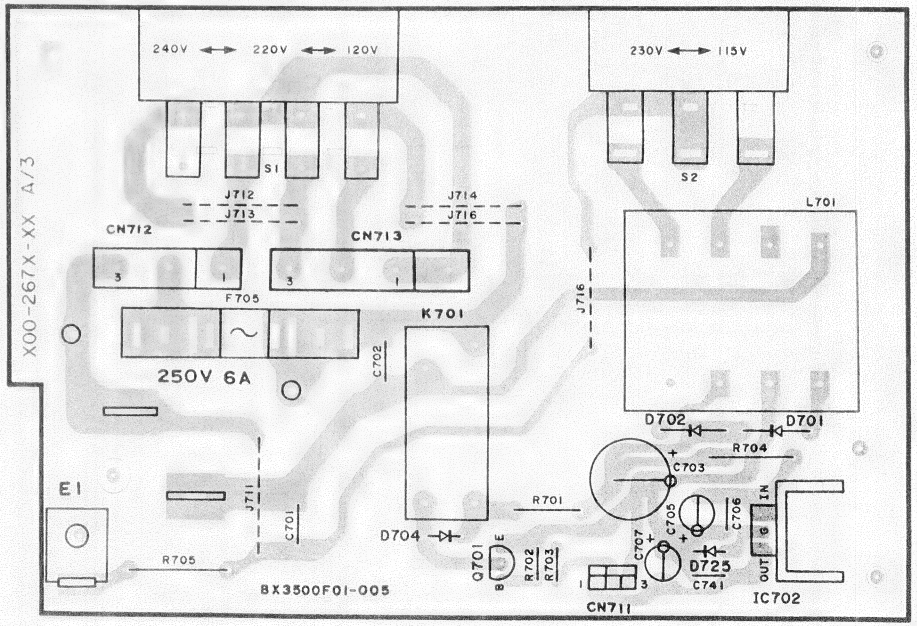




POWER SUPPLY UNIT (X00-268X-XX)



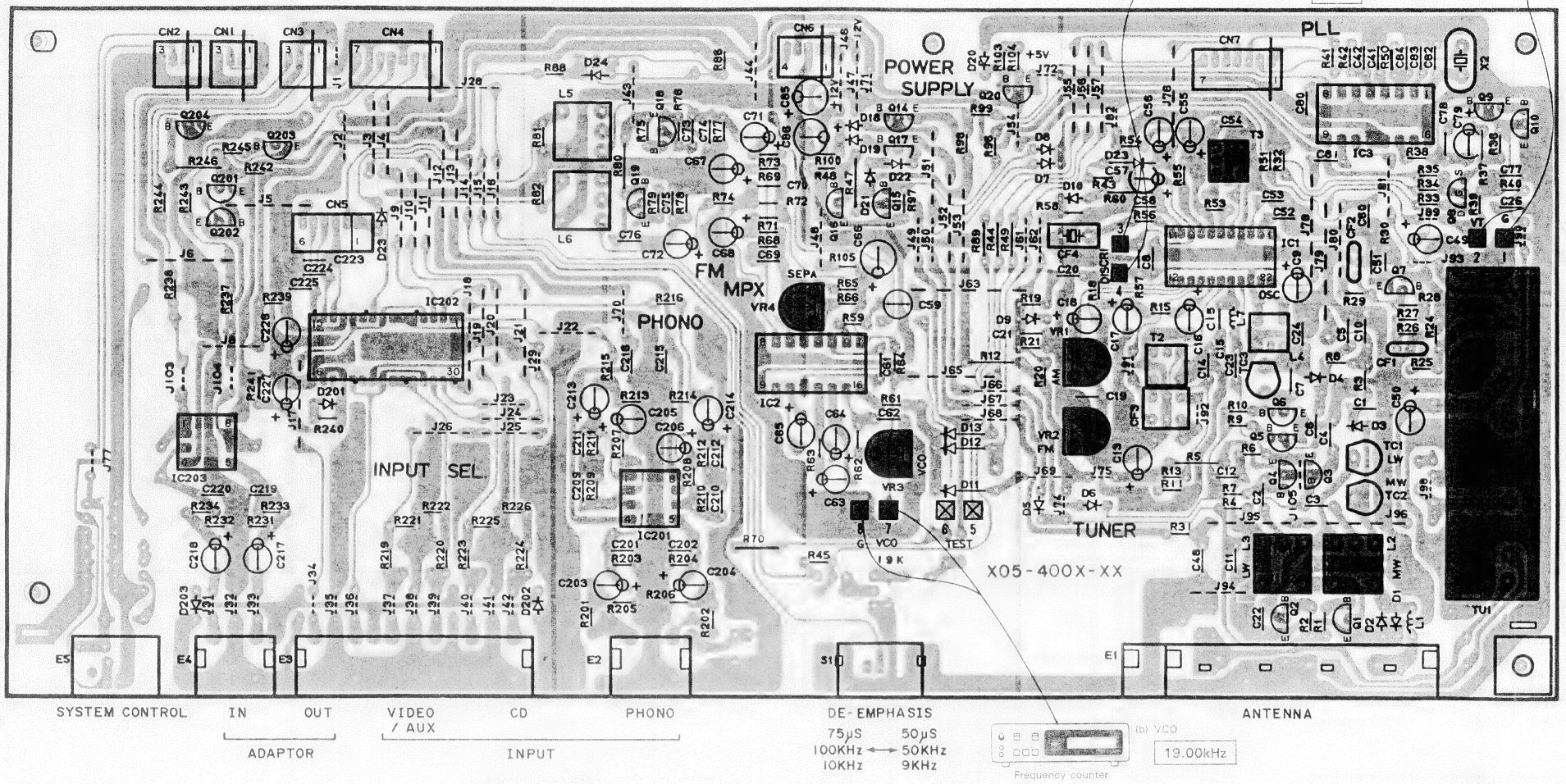
POWER SUPPLY UNIT (X00-267X-XX)



Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD

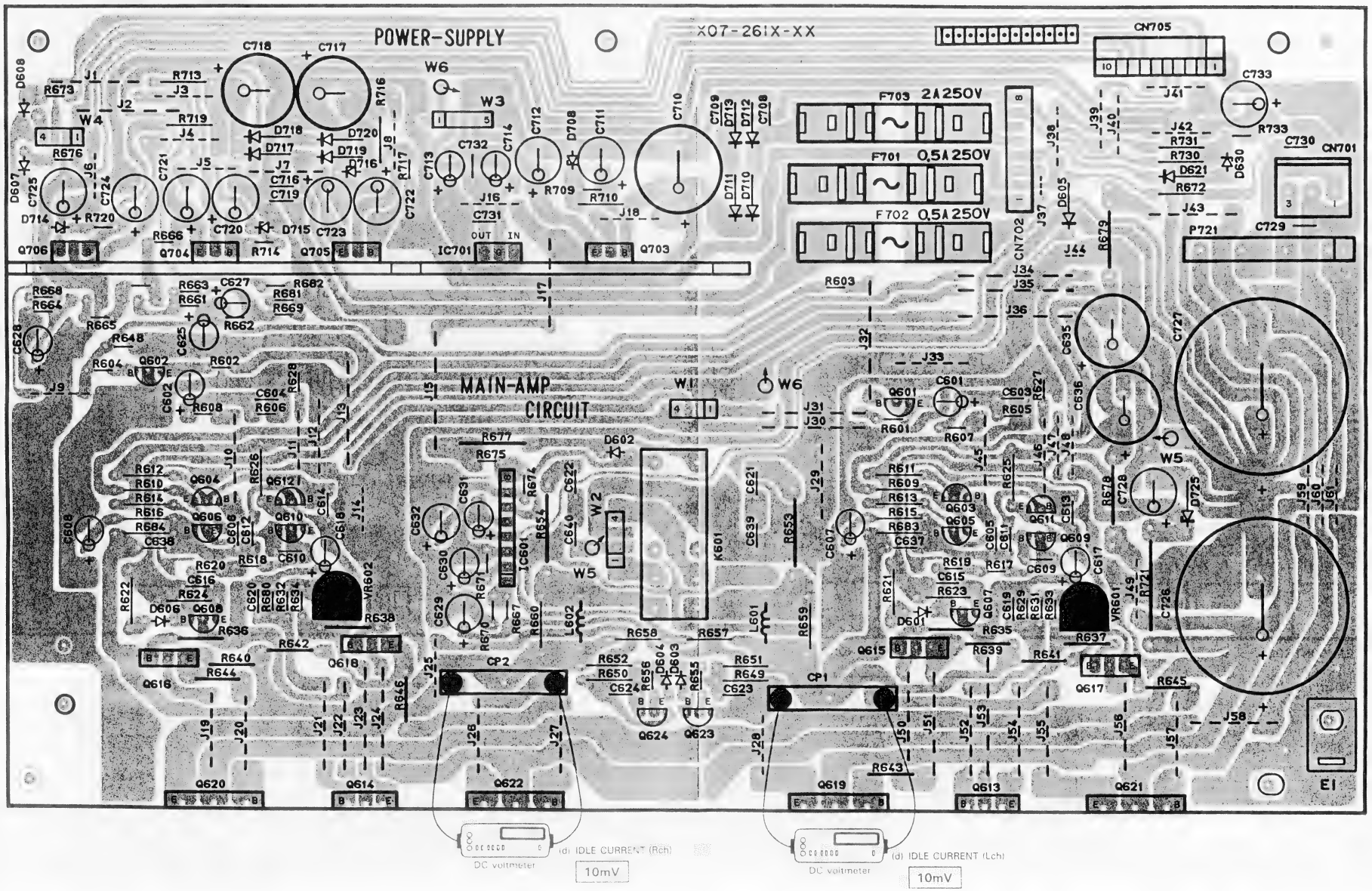
TUNER UNIT (X05-400X-XX)



Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD

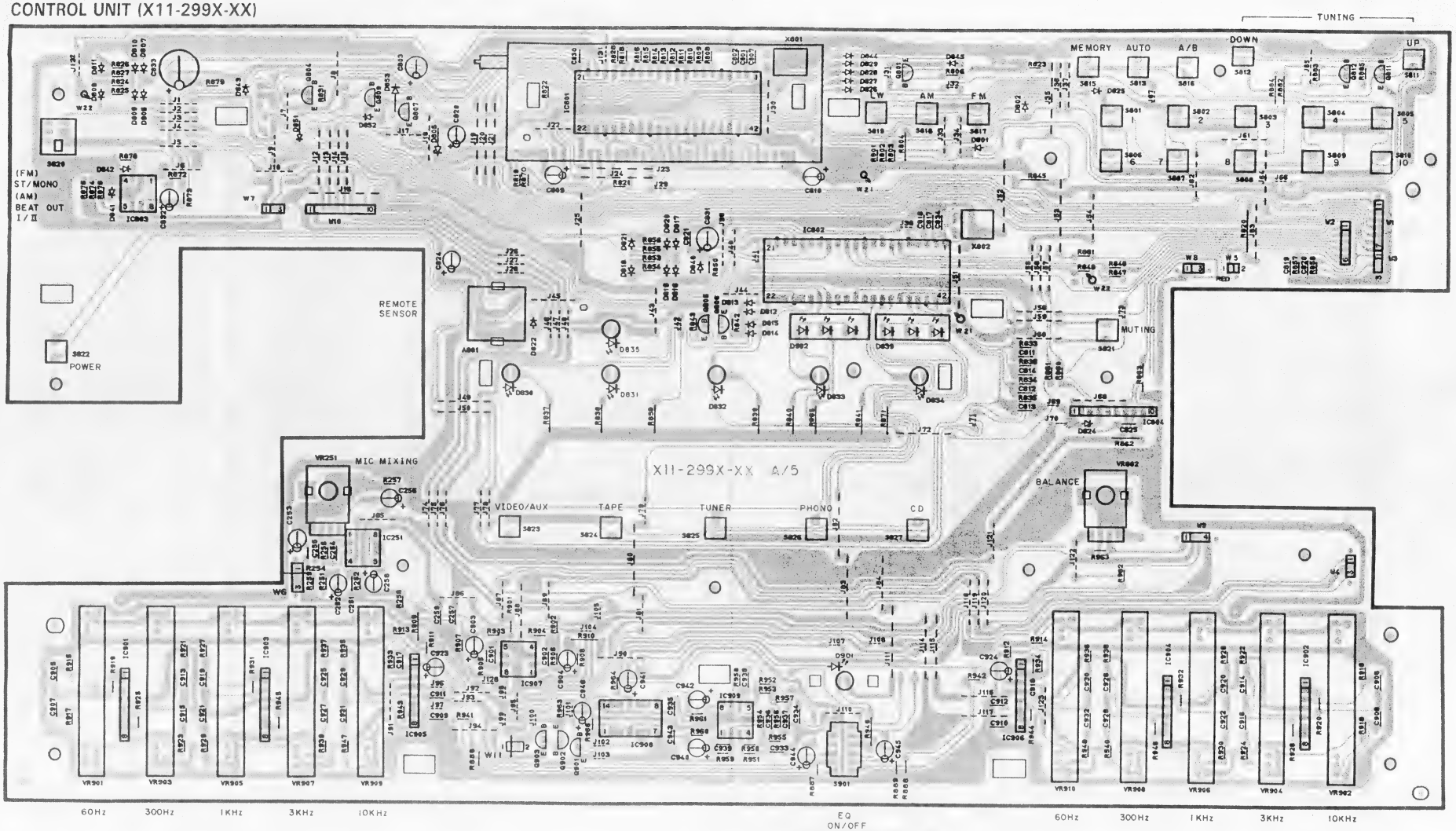
POWER AMPLIFIER UNIT (X07-261X-XX)

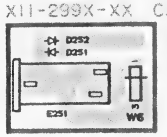


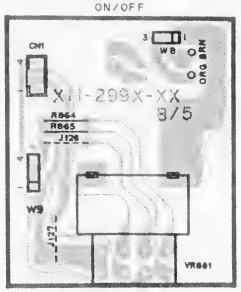
Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD

CONTROL UNIT (X11-299X-XX)



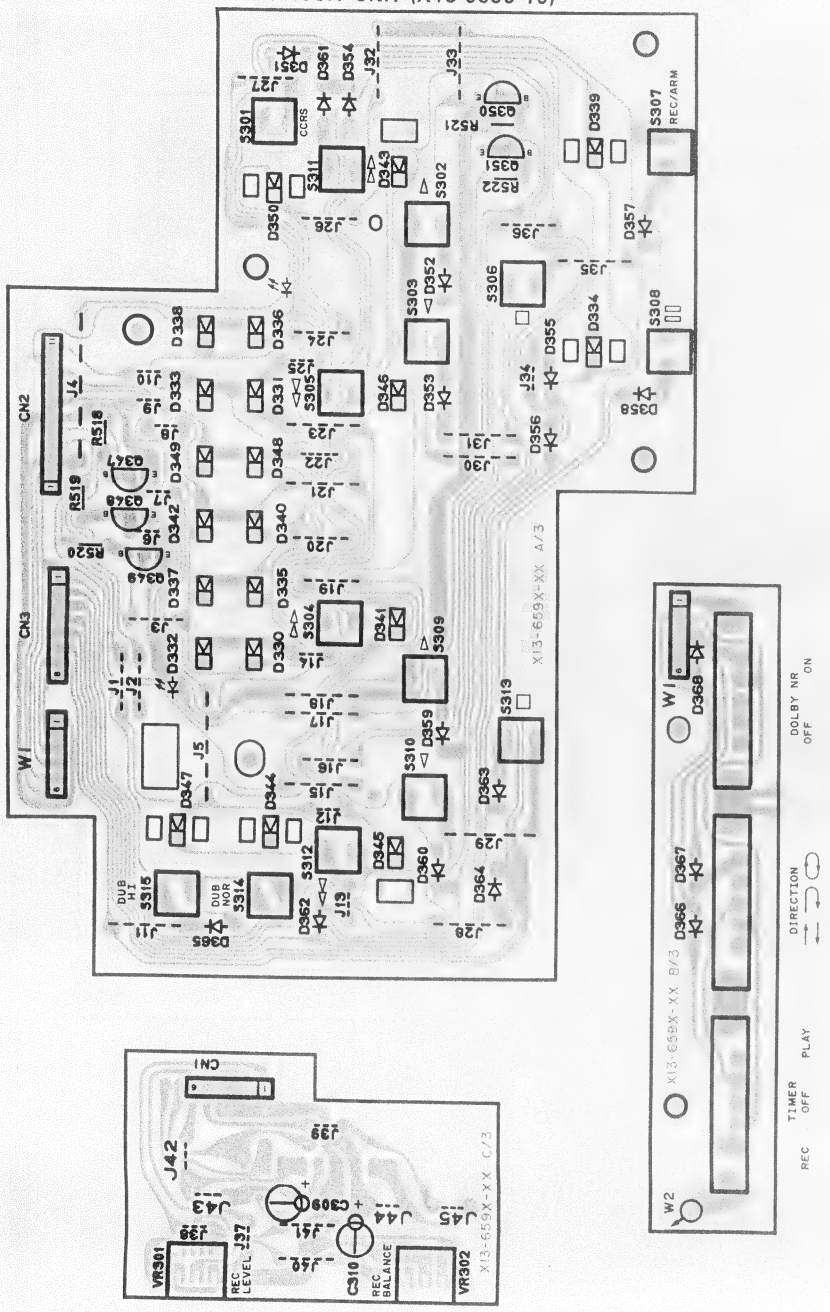




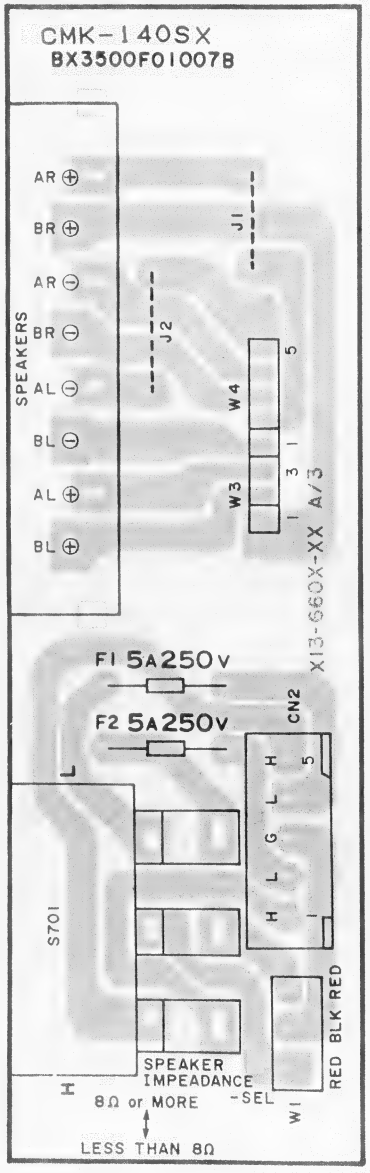
Refer to the schematic diagram for the values of resistors and capacitors.

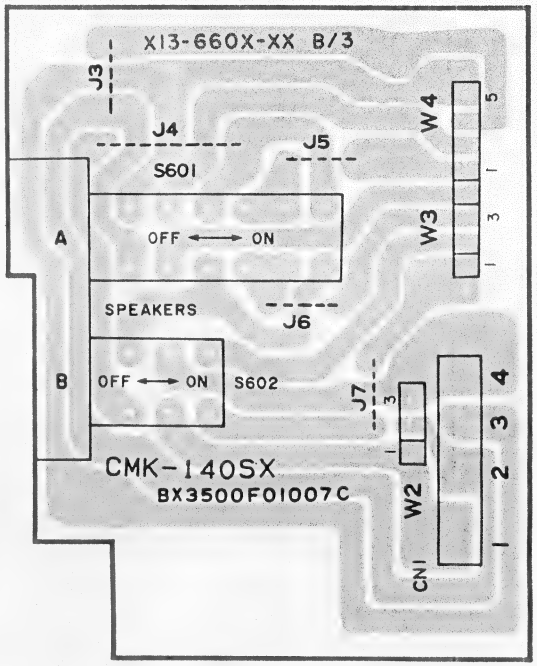
PC BOARD

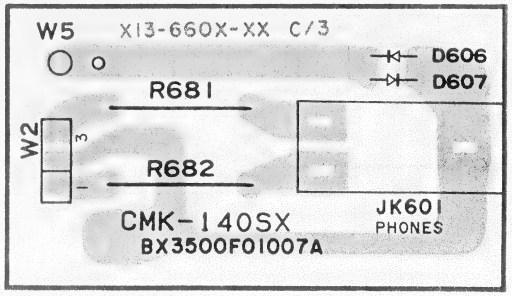
SUB-CIRCUIT UNIT (X13-6590-10)



SWITCH UNIT (X13-660X-XX)



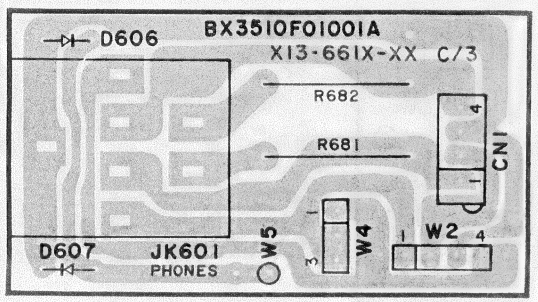


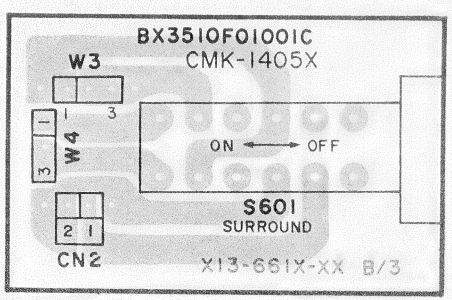


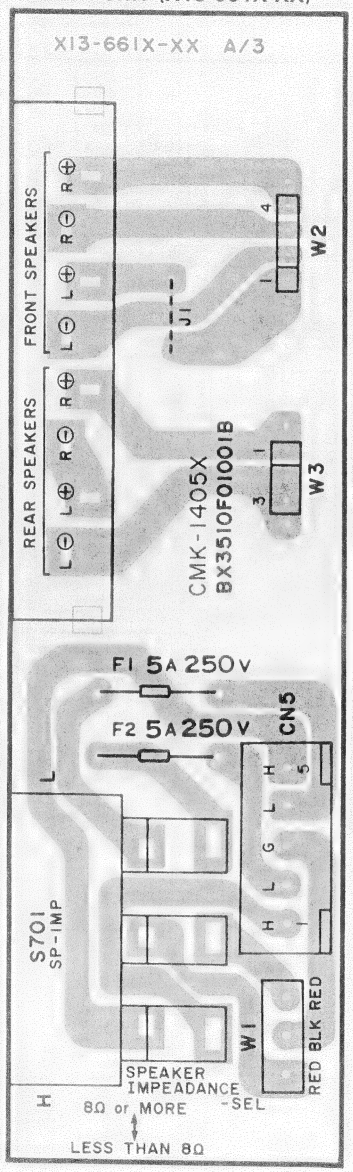
Refer to the schematic diagram for the values of resistors and capacitors.

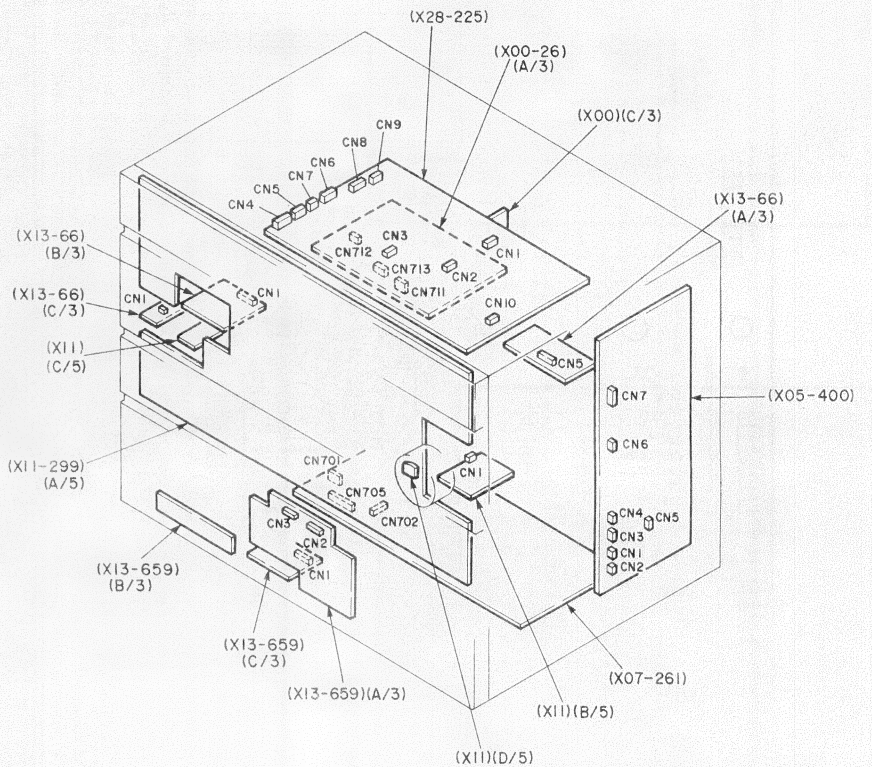
PC BOARD

SWITCH UNIT (X13-661X-XX)







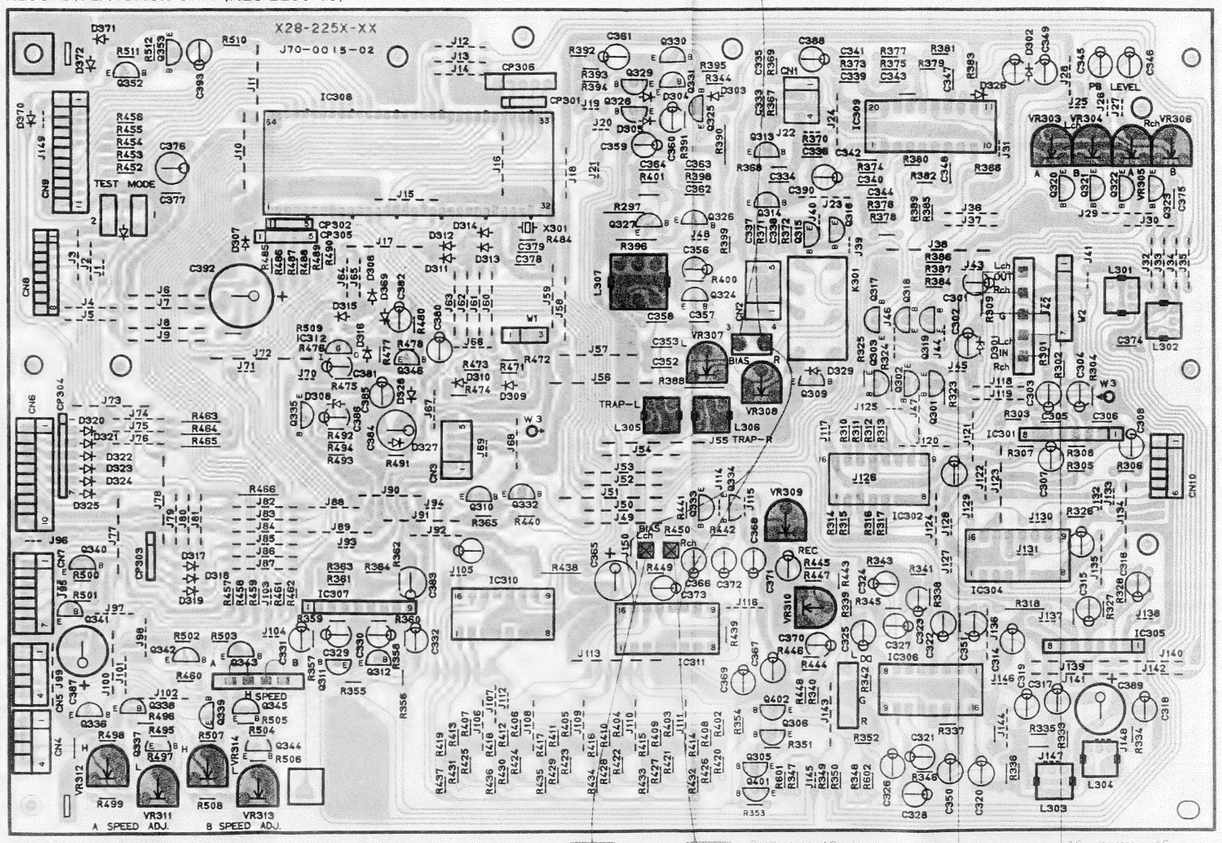


KRX-69/89

Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD

RECORD/PLAYBACK UNIT (X28-2250-10)



Refer to the schematic diagram for the values of resistors and capacitors.

(X05-400X-XX) (A/2) TUNER UNIT

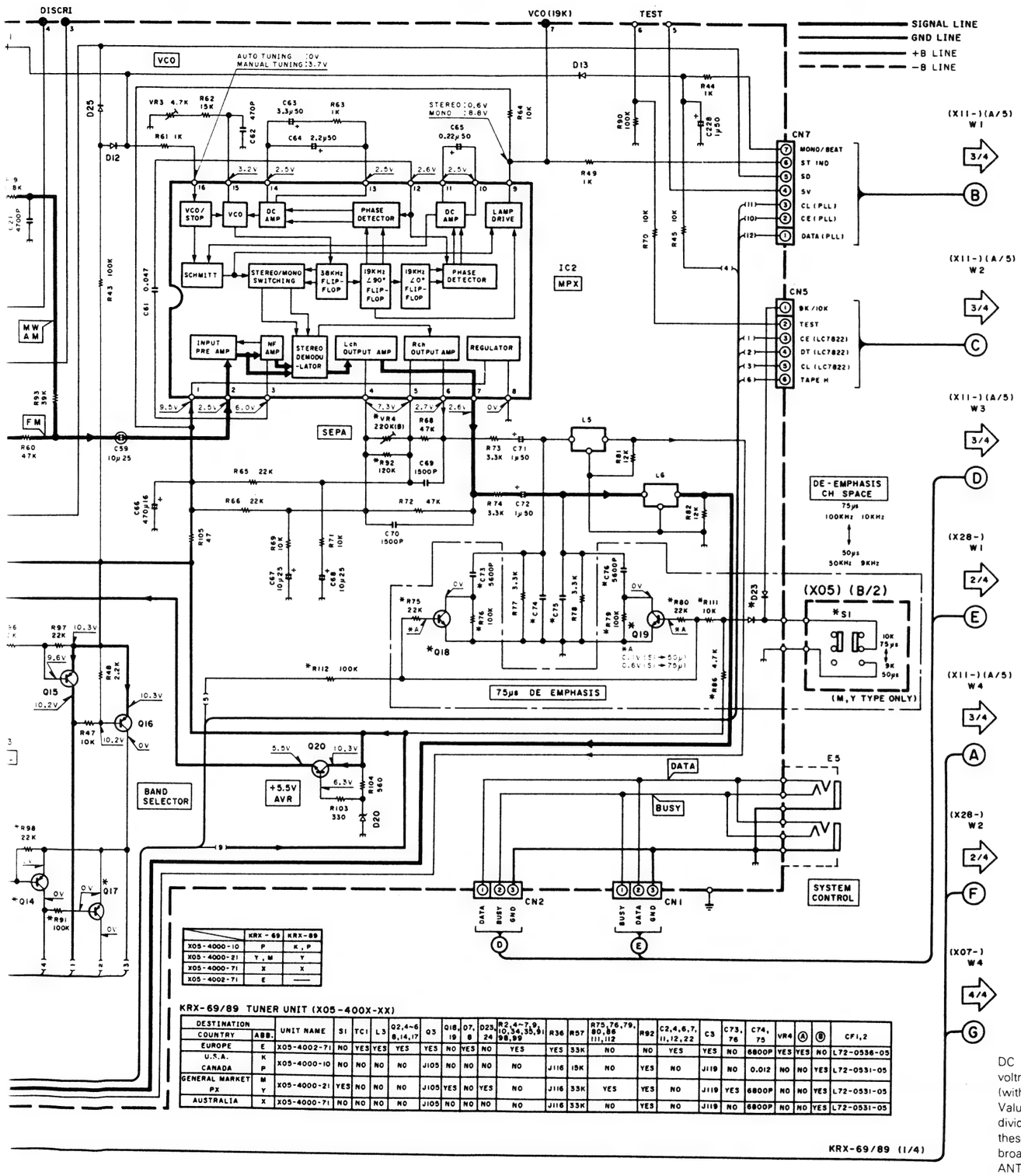
FM FRONT-END UNIT (W02-1042-05)

FET1 : 2SK241
TR1 : 2SC2668
TR2 : 2SC2995
TR3 : 2SC2669
DI~3 : 1SV103

(X05-400X-XX) TUNER UNIT
IC1 : LA1265
IC2 : AN7470
IC3 : LM7001
IC201 : NJM4580D-D
IC202 : LC7822N
IC203 : NJM4565D

DI,2,7,8,11~13,23~25 : 1SS133 or HSS104
D3,4 : SVC321
D20 : RD6.2ES(B) or HZS6.2N(B)

Q2,5,6,10,18,19 : 2SC945(A)(Q,P) or 2SC1740S(Q,R)
Q3,4,7 : 2SC1923(R,O)
Q8 : 2SK364
Q9 : 2SC1845(F,E)
Q14~17 : 2SA733(A)(Q,P) or 2SA933S(Q,R)
Q20 : 2SC2003(L,K)
Q201 : DTA124ES
Q202 : DTC124ES
Q203,204 : 2SC2878(B)



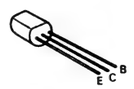
	KRX-69	KRX-89
X05-4000-10	P	K, P
X05-4000-21	Y, M	Y
X05-4000-71	X	X
X05-4002-71	E	—

KRX-69/89 TUNER UNIT (X05-400X-XX)

DESTINATION		UNIT NAME	S1	TC1	L3	Q2,4~6 8,14,17	Q3	Q18, 19	Q7, 8	D23, 24	R2,4~7,9, 10,34,35,91 98,99	R36	R57	R75,76,79, 80,86 111,112	R92	C2,4,6,7, 11,12,22	C3	C73, 76	C74, 75	VR4	Ⓐ	Ⓑ	CF1,2
COUNTRY	ABB.																						
EUROPE	E	X05-4002-71	NO	YES	YES	YES	YES	NO	YES	NO	YES	YES	33K	NO	NO	YES	YES	NO	6800P	YES	YES	NO	L72-0536-05
U.S.A. CANADA	K P	X05-4000-10	NO	NO	NO	NO	J105	NO	NO	NO	NO	J116	15K	NO	YES	NO	J119	NO	0.012	NO	NO	YES	L72-0531-05
GENERAL MARKET PX	M Y	X05-4000-21	YES	NO	NO	NO	J105	YES	NO	YES	NO	J116	33K	YES	YES	NO	J119	YES	6800P	NO	NO	YES	L72-0531-05
AUSTRALIA	X	X05-4000-71	NO	NO	NO	NO	J105	NO	NO	NO	NO	J116	33K	NO	YES	NO	J119	NO	6800P	NO	NO	YES	L72-0531-05

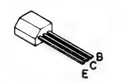
KRX-69/89 (1/4)

2SA1123
2SA1286
2SA733 (A)
2SA992
2SC1741
2SC1815
2SC1845
2SC1923
2SC2003
2SC2060
2SC2240
2SC2631
2SC2632
2SC2878
2SC3246
2SC945 (A)

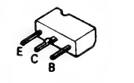


2SA1110
2SC2590

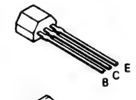
DTC124ES



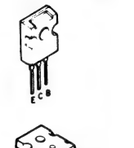
DTC114EFF
2SA937F
2SC2021F



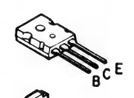
DTA124ES
2SA933S
2SC1740S



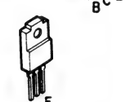
2SC4137



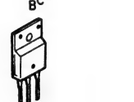
2SB1163
2SD1718



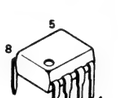
2SA1535
2SC3944



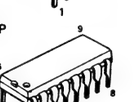
2SB1274
2SD1913



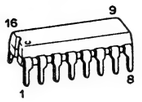
NJM2903D



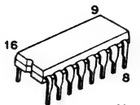
CXA1100
CXA1198AP



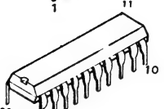
LM7001



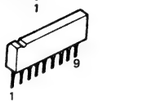
AN7470
TC4051BP
TC4052BP



LA3246

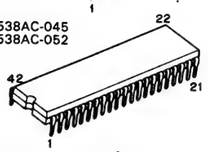


BA6138

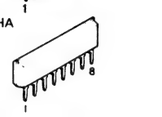


NJM4565D

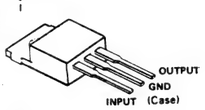
UPD7538AC-045
UPD7538AC-052



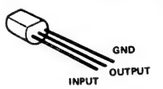
UPC1237HA



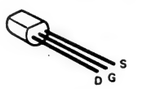
UPC7805H



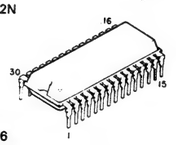
PST520F



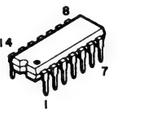
2SK364



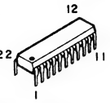
LC7822N



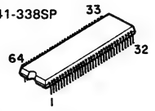
LC4966



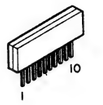
LA1265



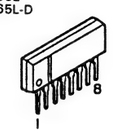
M50941-338SP



LB1641



NJM4565L
NJM4565L-D



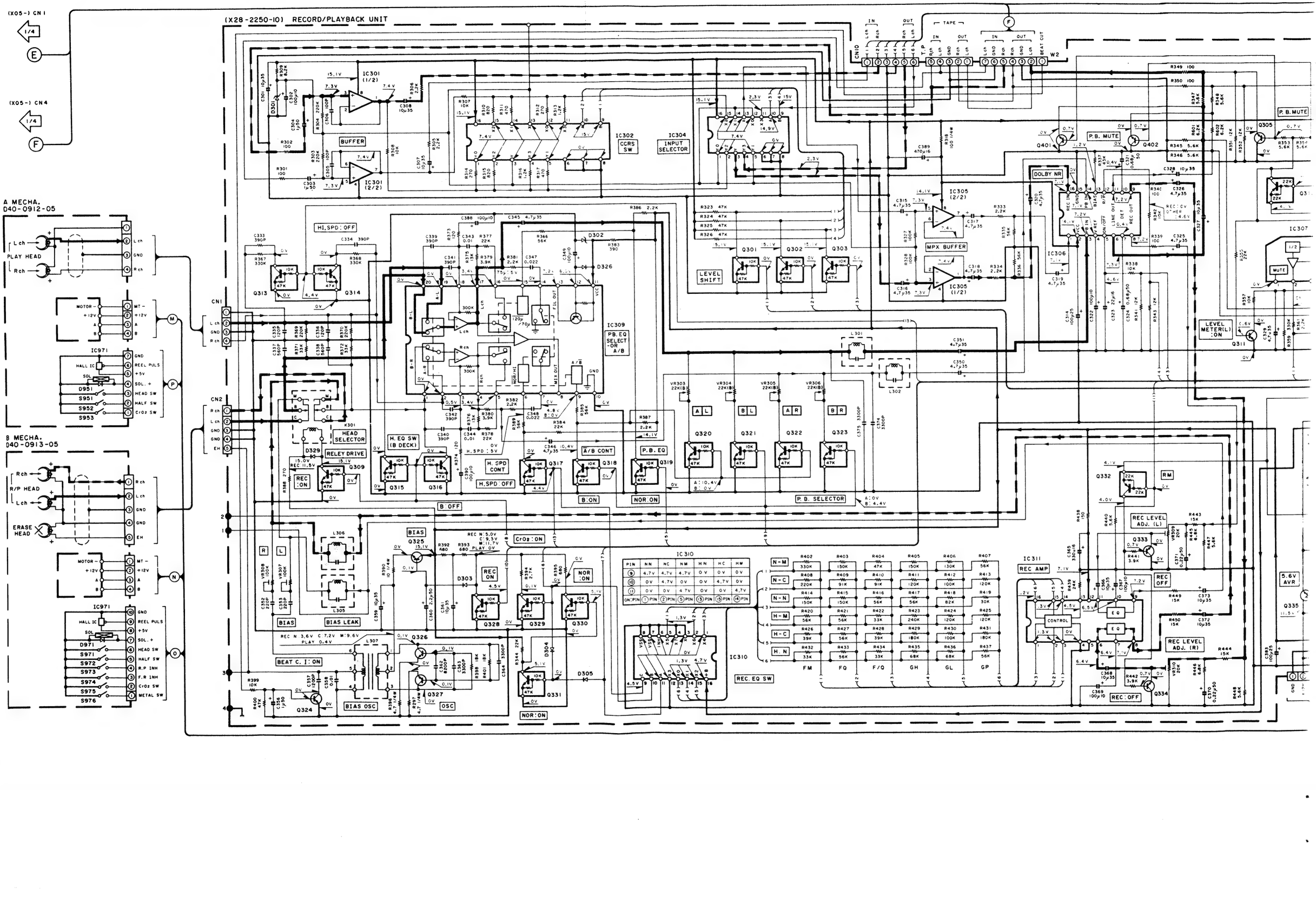
DC voltages are as measured with a high-impedance voltmeter during reception of the FM broadcast signal (with a signal strength of 60 dB at the ANT terminal). Values may vary slightly due to variations between individual instruments or/and units. Values in parentheses are as measured during reception of the AM broadcast signal (with a signal strength of 60 dB at the ANT terminal).

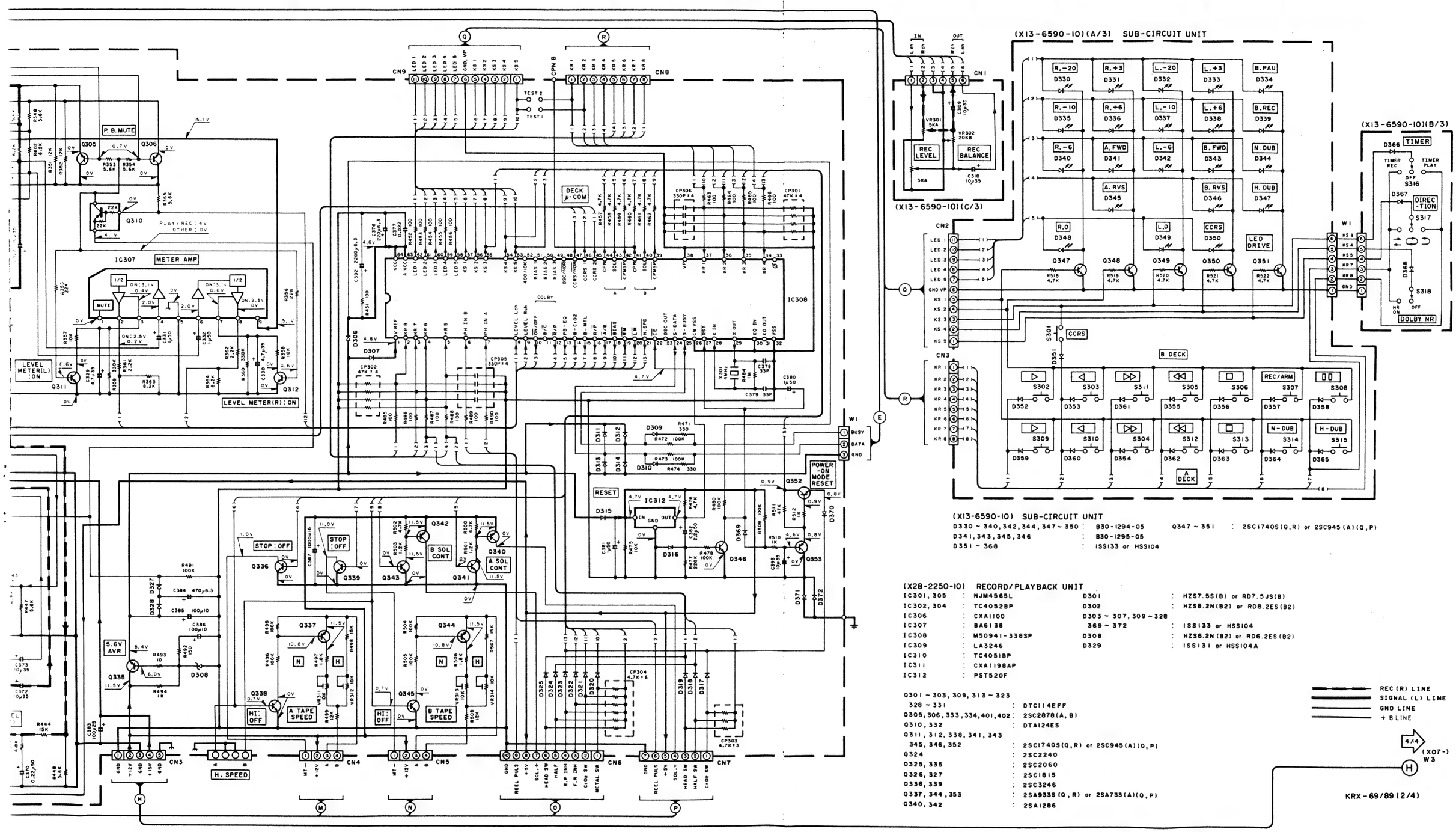
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

Y09-3620-10

KRX-69/89

KENWOOD


(X28-2250-10) RECORD/PLAYBACK UNIT
(X05-) CN1
(X05-) CN4
A MECHA. 040-0912-05
B MECHA. 040-0913-05
PLAY HEAD
R/P HEAD
ERASE HEAD
IC971
IC301 (1/2)
IC301 (2/2)
BUFFER
IC302 CCRS SW
IC304 INPUT SELECTOR
LEVEL SHIFT
MPX BUFFER
IC305 (2/2)
IC305 (1/2)
DOLBY NR
P.B. MUTE
IC306
IC307
MUTE
LEVEL METER(L) ON
IC309 PB.EQ SELECT -OR A/B
HI.SPD: OFF
H. EQ SW (B DECK)
H. SPD CONT
H.SPD: OFF
A/B CONT
P.B. EQ
NOR: ON
P.B. SELECTOR
HEAD SELECTOR
RELEY DRIVE
REC: ON
B: OFF
B: ON
BIAS
BIAS LEAK
BIAS OSC
CrO2: ON
BEAT C. I: ON
OSC
IC310
REC. EQ SW
IC311 REC AMP
CONTROL
EQ
REC LEVEL ADJ. (L)
REC LEVEL ADJ. (R)
REC: OFF
REC OFF
RM
5.6V AVR
TAPE
W2
CN10
CN1
CN2



(X13-6590-10) SUB-CIRCUIT UNIT

D330 ~ 340, 342, 344, 347 ~ 350	: B30-1294-05	Q347 ~ 351	: 2SC1740S(Q,R) or 2SC945(A)(Q,P)
D341, 343, 345, 346	: B30-1295-05		
D351 ~ 368	: ISS133 or HSS104		

(X28-2250-10) RECORD/PLAYBACK UNIT

IC301, 305	: NJM4565L	D301	: HZS7.5S(B) or RD7.5JS(B)
IC302, 304	: TC40528P	D302	: HZS8.2N(B2) or RD8.2ES(B2)
IC306	: CXA1100	D303 ~ 307, 309 ~ 328	
IC307	: BA6138	369 ~ 372	: ISS133 or HSS104
IC308	: M50941-338SP	D308	: HZS6.2N(B2) or RD6.2ES(B2)
IC309	: LA3246	D329	: ISS131 or HSS104A
IC310	: TC4051BP		
IC311	: CXA1198AP		
IC312	: PST520F		

Q301 ~ 303, 309, 313 ~ 323, 328 ~ 331	: DTC114EFF
Q305, 306, 333, 334, 401, 402	: 2SC2878(A,B)
Q310, 332	: DTA124ES
Q311, 312, 338, 341, 343, 345, 346, 352	: 2SC1740S(Q,R) or 2SC945(A)(Q,P)
Q324	: 2SC2240
Q325, 335	: 2SC2060
Q326, 327	: 2SC1815
Q336, 339	: 2SC3246
Q337, 344, 353	: 2SA933S(Q,R) or 2SA733(A)(Q,P)
Q340, 342	: 2SA1286

KRX-69/89 (2/4)

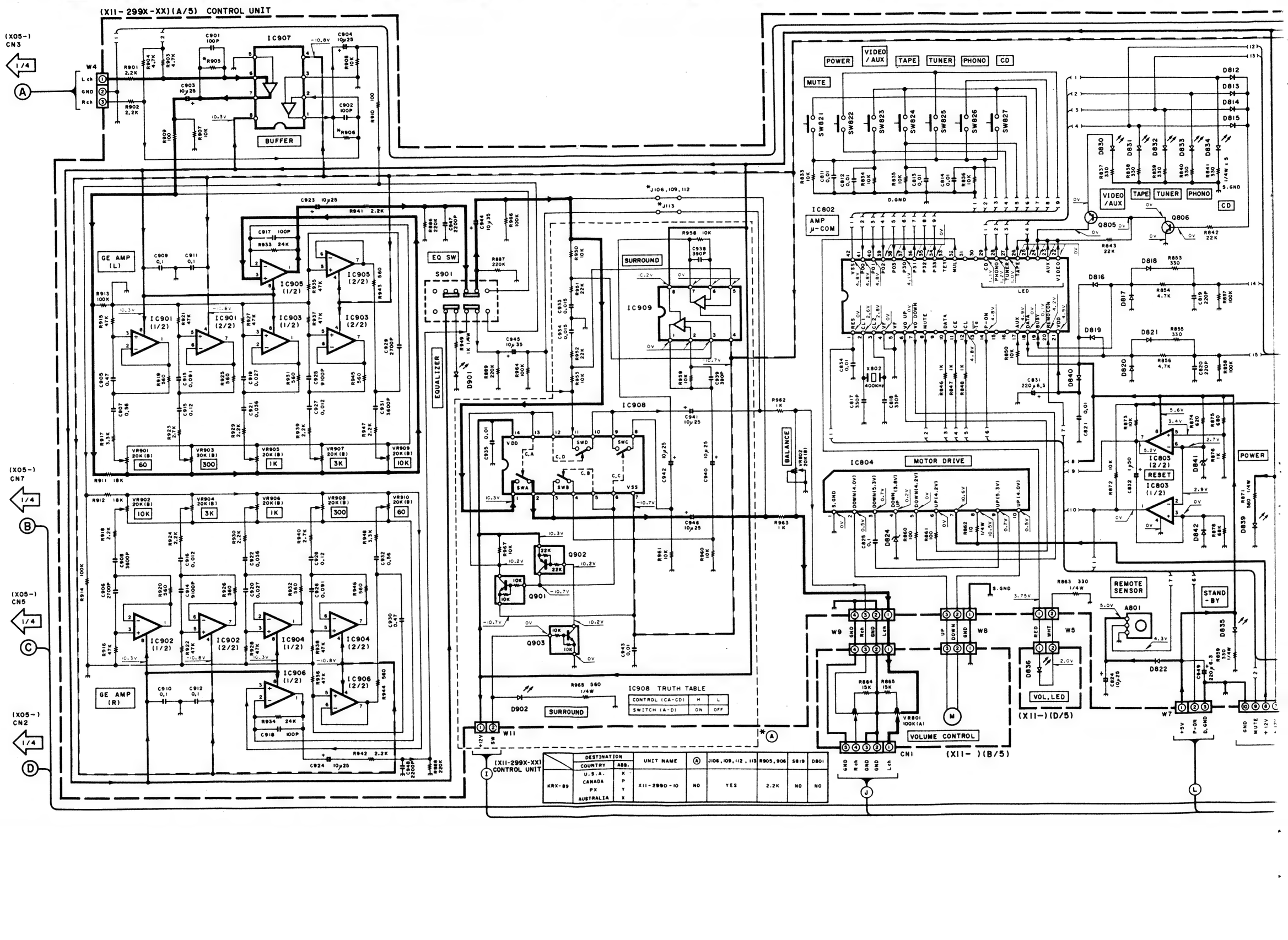
DC voltages are as measured with a high-impedance voltmeter during reception of the FM broadcast signal (with a signal strength of 60 dB at the ANT terminal). Values may vary slightly due to variations between individual instruments or/and units. Values in parentheses are as measured during reception of the AM broadcast signal (with a signal strength of 60 dB at the ANT terminal).

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

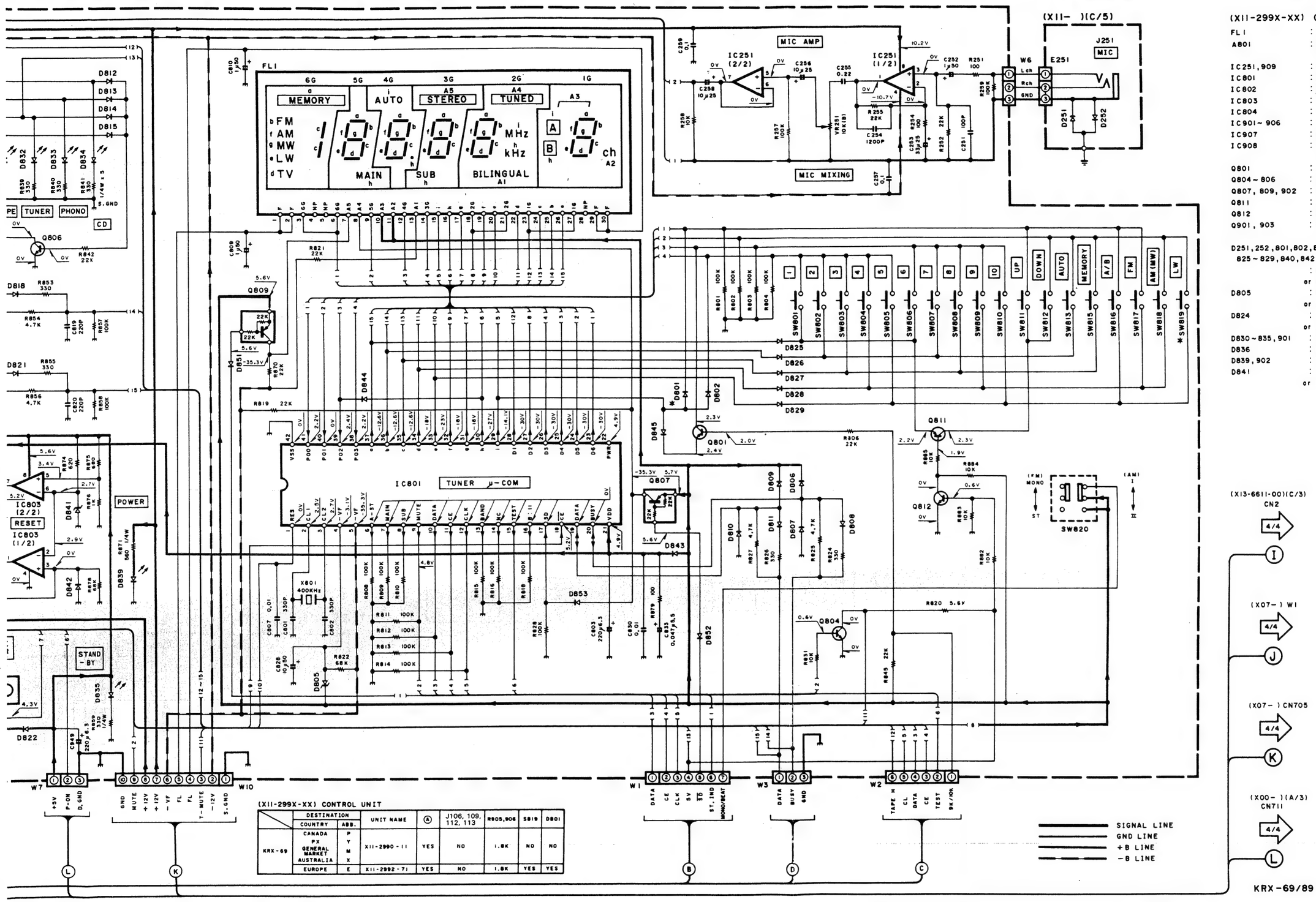
Y09-3620-10

KRX-69/89

KENWOOD



DESTINATION			UNIT NAME	Ⓐ	J106, 109, 112, 113	R905, 906	S819	D801
	COUNTRY	ABB.						
KRX-89	U.S.A.	K	XII-299D-10	NO	YES	2.2K	NO	NO
	CANADA	P						
	PX	Y						
	AUSTRALIA	X						



(X11-299X-XX) CONTROL UNIT

	DESTINATION		UNIT NAME	Ⓐ	J106, 109, 112, 113	R905,906	SB19	D801
	COUNTRY	ABB.						
KRX-69	CANADA	P	X11-2990-11	YES	NO	1.8K	NO	NO
	PX GENERAL MARKET	Y						
	AUSTRALIA	M						
	EUROPE	E	X11-2992-71	YES	NO	1.8K	YES	YES

(X11-299X-XX) CONTROL UNIT

FL1	: FIP8BRM7A
A801	: W02-1052-05
IC251,909	: NJM4565D
IC801	: μPD7538AC-045
IC802	: μPD7538AC-052
IC803	: NJM2903D
IC804	: LB1641
IC901~906	: NJM4565L-D
IC907	: NJM4580D-D
IC908	: LC4966
Q801	: 2SA937F(Q,R,S)
Q804~806	: 2SC2021F(Q,R,S)
Q807, 809, 902	: DTA124ES
Q811	: 2SA733(A)(Q,P) or 2SA933S(Q,R)
Q812	: 2SC945(A)(Q,P) or 2SC1740S(Q,R)
Q901, 903	: DTC114EFF
D251,252,801,802,806~822, 825~829,840,842~845,851~853	: 1SS133 or HSS104
D805	: RD9.1ES(B) or HZS9.1N(B)
D824	: RD4.7ES(B) or HZS4.7N(B)
D830~835,901	: B30-1294-05
D836	: B30-1295-05
D839,902	: B30-1296-05
D841	: RD2.7ES(B2) or HZS2.7N(B2)

DC voltages are as measured with a high-impedance voltmeter during reception of the FM broadcast signal (with a signal strength of 60 dB at the ANT terminal). Values may vary slightly due to variations between individual instruments or/and units. Values in parentheses are as measured during reception of the AM broadcast signal (with a signal strength of 60 dB at the ANT terminal).

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KRX-69/89 (3/4)

Y09-3620-10

KRX-69/89

KENWOOD

DESTINATION: COUNTRY	ABB.		UNIT NAME	C611, 612	C613, 614	C726, 727	R609, 610	R683, 684	R721	① D721	② D725	③ Q609 ~612	④ Q615, 616	⑤ Q617, 638	⑥ Q619, 620	⑦ Q621, 622	F701, 702	F703
U.S.A. CANADA	K P	KRX-89	X07-2610-10	4P	39P	8200µ71	10K 1/4W	68K	1.8K 3W	DBF60C	RD24F(B)	2SC2632	2SC3944	2SA1535	2SD1718	2SB1163	250V 0.5A	250V 2A
PX	Y	KRX-89	X07-2610-71	4P	39P	8200µ71	10K 1/4W	68K	1.8K 3W	DBF60C	RD24F(B)	2SC2632	2SC3944	2SA1535	2SD1718	2SB1163	250V 0.5A	250V 2A
AUSTRALIA	X	KRX-89	X07-2612-91	4P	39P	8200µ71	10K 1/4W	68K	1.8K 3W	DBF60C	RD24F(B)	2SC2632	2SC3944	2SA1535	2SD1718	2SB1163	250V T500mA	250V T2A
CANADA	P	KRX-69	X07-2611-01	2P	22P	3300µ50	6.8K 1/4W	56K	1K 3W	DBF40C	RD18F(B)	2SC2631	2SC2590	2SA1110	2SC4467	2SA1694	250V 0.5A	250V 2A
PX	Y	KRX-69	X07-2612-92	2P	22P	3300µ50	6.8K 1/4W	56K	1K 3W	DBF40C	RD18F(B)	2SC2631	2SC2590	2SA1110	2SC4467	2SA1694	250V 0.5A	250V 2A
GENERAL MARKET AUSTRALIA EUROPE	M X E	KRX-69	X07-2612-71	2P	22P	3300µ50	6.8K 1/4W	56K	1K 3W	DBF40C	RD18F(B)	2SC2631	2SC2590	2SA1110	2SC4467	2SA1694	250V T500mA	250V T2A

POWER AMPLIFIER UNIT (X07-261X-XX)

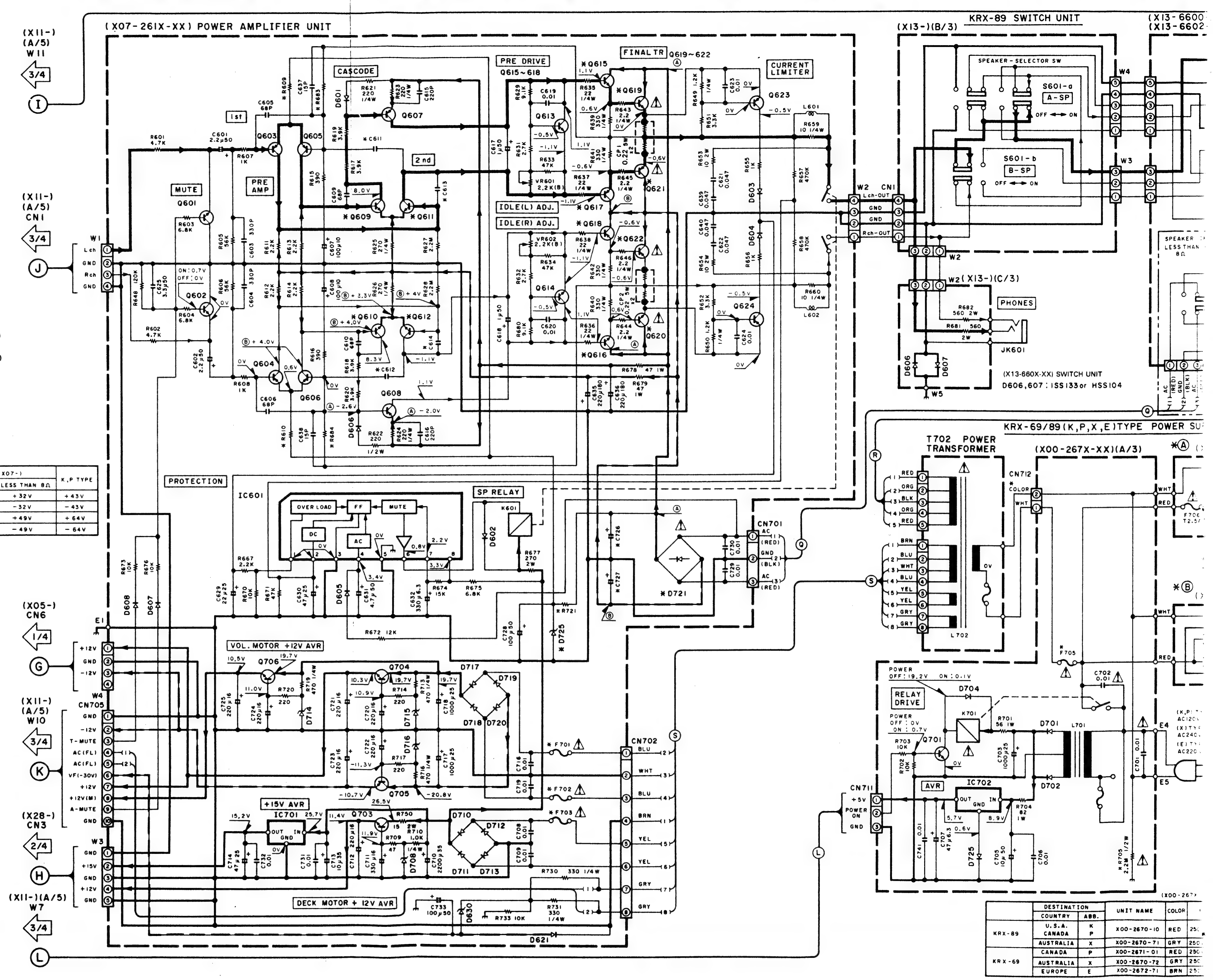
POWER AMPLIFIER UNIT
(X07-261X-XX)

IC601 : µPC1237HA
IC701 : µPC7815H

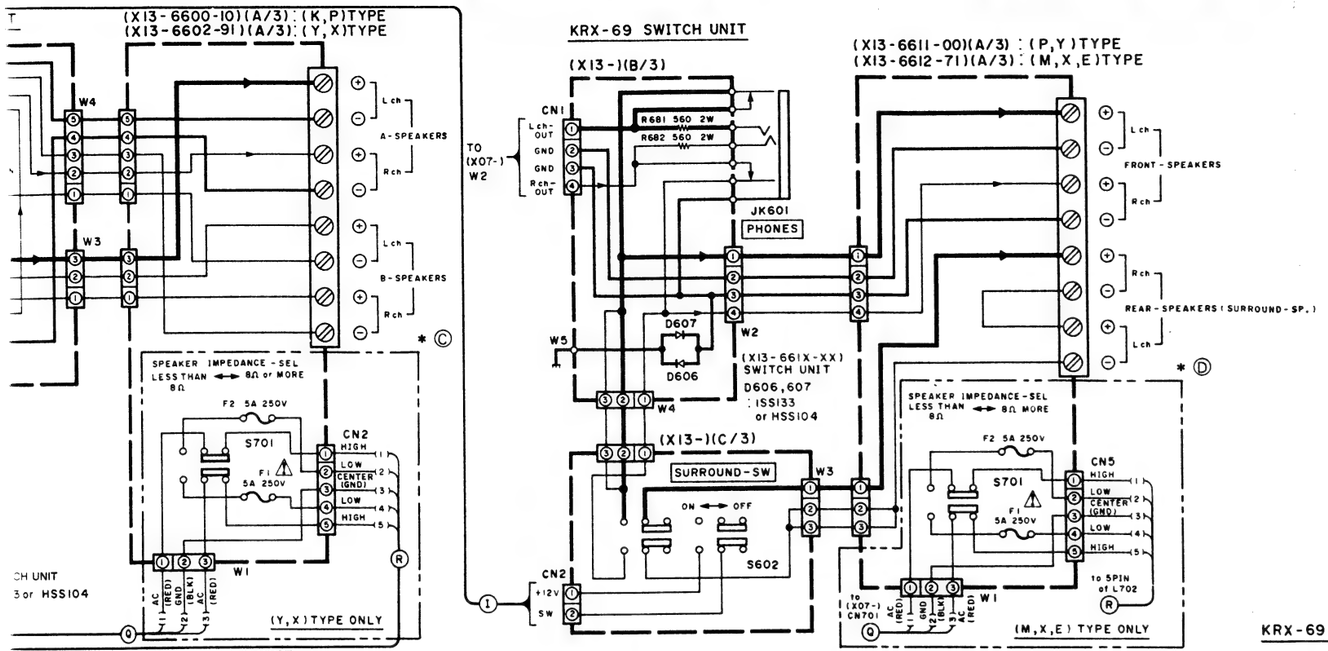
Q601,602 : 2SC2878(B)
Q603~606 : 2SA992(E,F)
Q607,608 : 2SA1123
Q609~612 : ③
Q613,614 : 2SC4137(V,W)
Q615,616 : ④
Q617,638 : ⑤
Q619,620 : ⑥
Q621,622 : ⑦
Q623,624 : 2SA933S(Q,R) or 2SA733(A)(Q,P)
Q703,704,706 : 2SD1913
Q705 : 2SB1274

D601,603~608 : 1SS133 or HSS104
D602 : 1SS131 or HSS104A
D621,710~713,717~720 : 1SR139-100
D630 : HZS5.1N(B) or RD5.1ES(B)
D708,714~716 : HZS12N(B2) or RD12ES(B2)
D721 : ①
D725 : ②

		S701 (X07-) 8Ω or MORE	S701 (X07-) LESS THAN 8Ω	K,P TYPE
KRX-69	Ⓐ	+43V	+32V	+43V
	Ⓑ	−43V	−32V	−43V
KRX-89	Ⓐ	+64V	+49V	+64V
	Ⓑ	−64V	−49V	−64V



	DESTINATION: COUNTRY	ABB.	UNIT NAME	COLOR
KRX-89	U.S.A. CANADA	K P	X00-2670-10	RED
KRX-89	AUSTRALIA	X	X00-2670-71	GRY
KRX-69	CANADA	P	X00-2671-01	RED
KRX-69	AUSTRALIA	X	X00-2670-72	GRY
KRX-69	EUROPE	E	X00-2672-71	BRN



KRX-89 (X13-660X-XX) SWITCH UNIT

DESTINATION		UNIT NAME	©
COUNTRY	ABB		
U.S.A. CANADA	K P	X13-6600-10	NO
PX AUSTRALIA	Y X	X13-6602-91	YES

KRX-69 (X13-661X-XX) SWITCH UNIT

DESTINATION		UNIT NAME	Ⓓ
COUNTRY	ABB		
CANADA PX	P Y	X13-6611-00	NO
GENERAL MARKET AUSTRALIA EUROPE	M X E	X13-6612-71	YES

SIGNAL LINE
GND LINE
+B LINE
−B LINE

POWER SUPPLY UNIT (X00-2682-9X) (Y:TYPE)

	DESTINATION		UNIT NAME	F705
	COUNTRY	ABB		
KRX-89	PX	Y	X00-2682-90	250V 6A
KRX-69	PX	Y	X00-2682-91	250V 4A

(K,P,X,E)TYPE (X00-267X-XX) POWER SUPPLY UNIT

DESTINATION ABB.	UNIT NAME	COLOR	F705	R705	Ⓐ	Ⓑ
K P	X00-2670-10	RED	250V 6A	YES	NO	YES
X	X00-2670-71	GRY	250V T6.3A	NO	NO	NO
P	X00-2671-01	RED	250V 4A	YES	NO	YES
X	X00-2670-72	GRY	250V T1.6A	NO	NO	NO
E	X00-2672-71	BRN	250V T1.6A	NO	YES	NO

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KRX-69/89 (4/4)

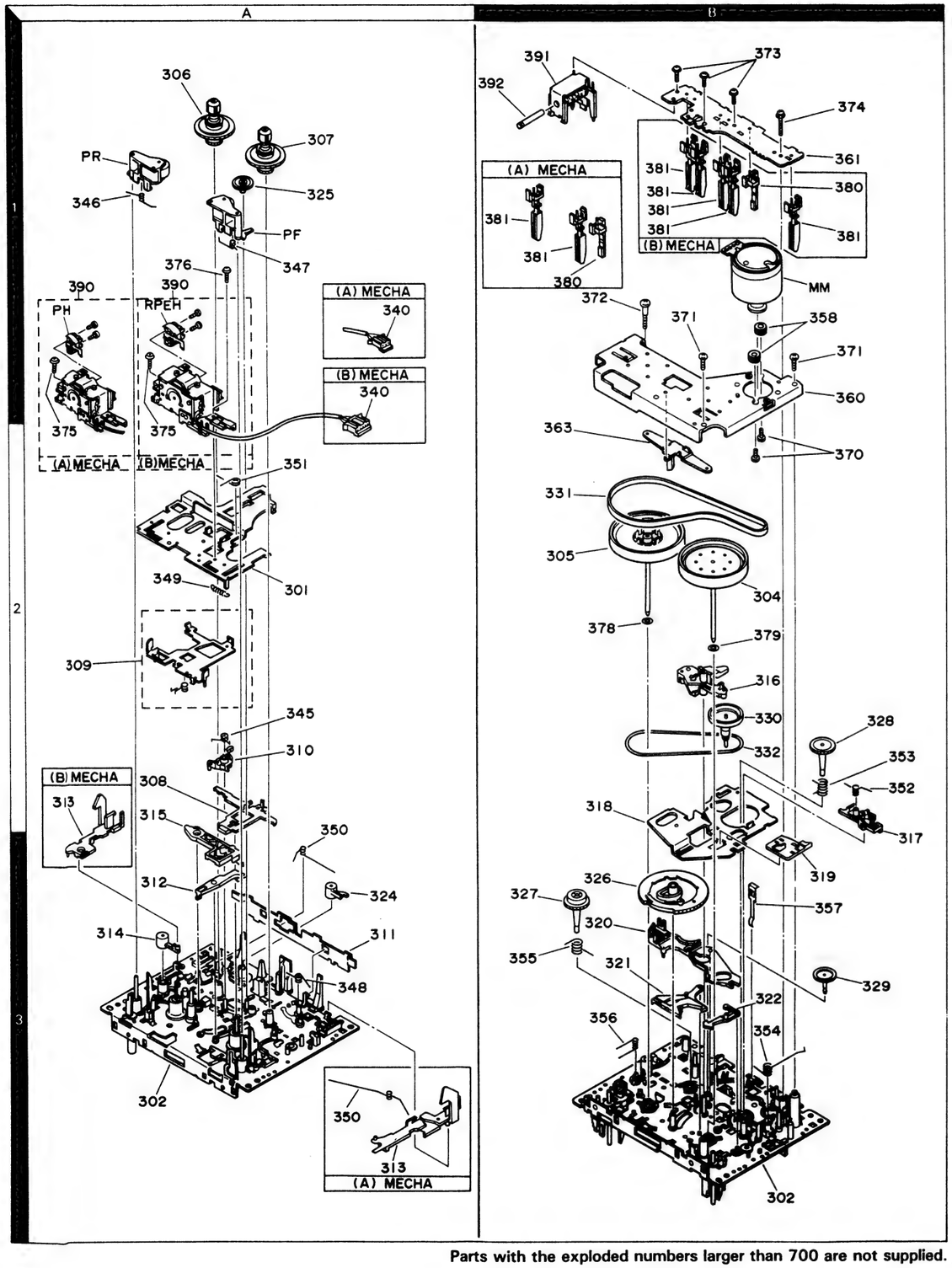
Y09-3620-10

KRX-69/89

KENWOOD

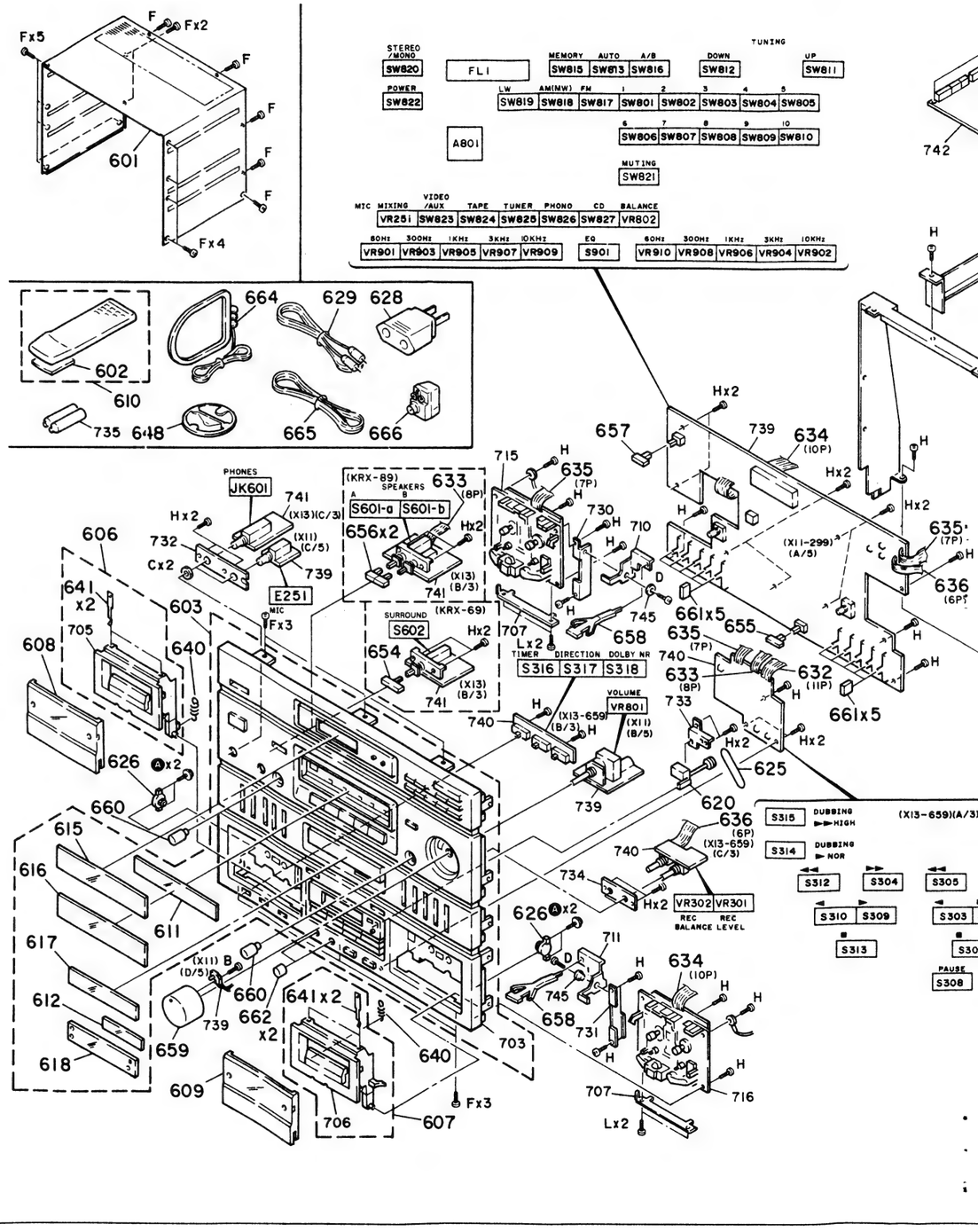
KRX-69/89

EXPLODED VIEW (MECHANISM)

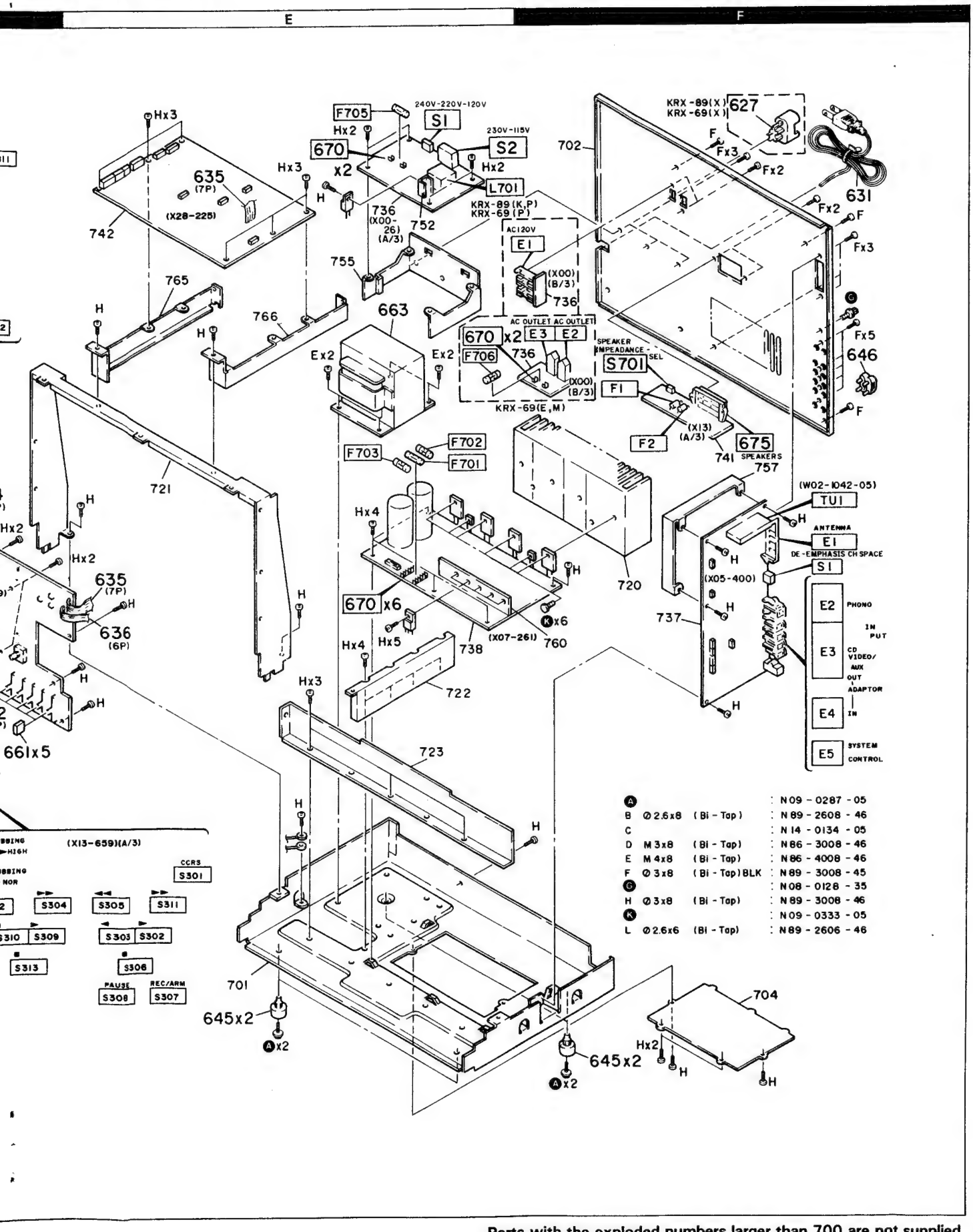


Parts with the exploded numbers larger than 700 are not supplied.

EXPLODED VIEW



DED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名/規格	Destination 仕向	Remarks 備考
			KRX-89			
601	1C	*	A01-1899-01	METALLIC CABINET		
602	2C		A09-0099-08	BATTERY COVER		
603	2C	*	A20-6146-01	PANEL ASSY		
606	2C	*	A53-1272-13	CASSETTE HOLDER ASSY(A)		
607	3D	*	A53-1274-13	CASSETTE HOLDER ASSY(B)		
608	2C	*	A53-1276-03	CASSETTE LID (A)		
609	3C	*	A53-1277-04	CASSETTE LID (B)		
610	2C	*	A70-0501-05	REMOTE CONTROLLER ASSY		
611	3C	*	B03-2677-04	DRESSING PLATE (AMP SECTION)		
612	3C	*	B03-2678-04	DRESSING PLATE (DECK SECTION)		
615	3C	*	B10-1829-04	FRONT GLASS (TUNER SECTION)		
616	3C	*	B10-1830-04	FRONT GLASS (AMP SECTION)		
617	3C	*	B10-1831-04	FRONT GLASS (GE SECTION)		
618	3C	*	B10-1832-04	FRONT GLASS (DECK SECTION)		
620	3D		B35-0035-05	TAPE COUNTER		
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	Y	
-			B46-0095-03	WARRANTY CARD	Y	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	Y	
-		*	B60-0176-00	INSTRUCTION MANUAL(ENGLISH)	KYX	
-		*	B60-0177-00	INSTRUCTION MANUAL(ENG.FRE.)	P	
625	2D		D16-0302-04	BELT		
626	2C,3D		D39-0199-05	DAMPER		
⚠ 627	1F		E03-0114-05	AC OUTLET	X	
⚠ 631	1F	*	E30-2635-05	AC POWER CORD	KP	
⚠ 631	1F	*	E30-2636-05	AC POWER CORD	Y	
⚠ 631	1F	*	E30-2637-05	AC POWER CORD	X	
632	2D	*	E31-7896-05	WIRING HARNESS (11P)		
633	2D	*	E31-7897-05	WIRING HARNESS (8P)		
634	2D,3D	*	E31-7898-05	WIRING HARNESS (10P)		
635	1E,2D	*	E31-7899-05	WIRING HARNESS (7P)		
636	2E,3D	*	E31-7901-05	WIRING HARNESS (6P)		
640	2C,3D	*	G01-3330-04	EXTENSION SPRING		
641	2C,3C	*	G02-0975-04	FLAT SPRING		
-		*	G11-2043-04	SOFT TAPE		
-		*	H01-8915-04	ITEM CARTON CASE		
-		*	H10-5075-11	POLYSTYRENE FOAMED FIXTURE		
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
-		*	H25-0635-04	PROTECTION BAG		
645	3E,3F		J02-0170-04	FOOT		
646	1F		J12-0091-05	PIN		
648	2C		J19-2815-04	ANTENNA HOLDER		
-			J61-0307-05	WIRE BAND		
655	2D	*	K29-4068-04	KNOB(EQ ON/OFF)		
656	2C	*	K29-4069-04	KNOB(SPEAKERS A,B ON/OFF)		
657	2D	*	K29-4070-04	KNOB(STEREO/MONO)		
658	2D,3D	*	K29-4071-03	KNOB(EJECT)		
659	3C	*	K29-4072-03	KNOB(VOLUME CONTROL)		
660	3C	*	K29-4073-04	KNOB(MIC MIXING,REC BALANCE)		

E: Scandinavia & Europe K: USA P: Canada
Y: PX(Far East,Hawaii) T: England M: Other Areas
Y: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

KRX-69/89

PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名/規格	Destination 仕向	Remarks 備考
661	2D	*	K29-4074-04	KNOB(GE)		
662	3C	*	K29-4075-04	KNOB(REC LEVEL)		
⚠ 663	1E	*	L07-0202-05	POWER TRANSFORMER	KP	
⚠ 663	1E	*	L07-0203-15	POWER TRANSFORMER	Y	
⚠ 663	1E	*	L07-0204-05	POWER TRANSFORMER	X	
A	2C,3E		N09-0287-05	SEMS (TAPTITE SCREW)(3X8)		
B	3C		N89-2608-46	BINDING HEAD TAPTITE SCREW		
C	2C		N14-0134-05	HEXAGON NUT		
D	2D,3D		N86-3008-46	BINDING HEAD TAPTITE SCREW		
E	1E		N86-4008-46	BINDING HEAD TAPTITE SCREW		
F	1C,1F		N89-3008-45	BINDING HEAD TAPTITE SCREW		
G	1F		N08-0128-35	BINDING POST		
H	2D		N89-3008-46	BINDING HEAD TAPTITE SCREW		
L	2D,3D		N89-2606-46	BINDING HEAD TAPTITE SCREW		
664	1C		T90-0173-05	LOOP ANTENNA		
665	2C		T90-0176-05	T TYPE ANTENNA		
			KRX-69			
601	1C	*	A01-1899-01	METALLIC CABINET		
602	2C		A09-0099-08	BATTERY COVER		
603	2C	*	A20-6148-01	PANEL ASSY	PYMX	
603	2C	*	A20-6150-01	PANEL ASSY	E	
606	2C	*	A53-1272-13	CASSETTE HOLDER ASSY(A)		
607	3D	*	A53-1274-13	CASSETTE HOLDER ASSY(B)		
608	2C	*	A53-1276-03	CASSETTE LID (A)		
609	3C	*	A53-1277-04	CASSETTE LID (B)		
610	2C	*	A70-0501-05	REMOTE CONTROLLER ASSY		
611	3C	*	B03-2680-04	DRESSING PLATE (AMP SECTION)		
612	3C	*	B03-2678-04	DRESSING PLATE (DECK SECTION)		
615	3C	*	B10-1829-04	FRONT GLASS (TUNER SECTION)	PYMX	
615	3C	*	B10-1833-04	FRONT GLASS (TUNER SECTION)	E	
616	3C	*	B10-1830-04	FRONT GLASS (AMP SECTION)		
617	3C	*	B10-1831-04	FRONT GLASS (GE SECTION)		
618	3C	*	B10-1832-04	FRONT GLASS (DECK SECTION)		
620	3D		B35-0035-05	TAPE COUNTER		
-			B46-0094-03	WARRANTY CARD	Y	
-			B46-0095-03	WARRANTY CARD	Y	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-			B46-0122-13	WARRANTY CARD	E	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	Y	
-		*	B60-0180-00	INSTRUCTION MANUAL(ENGLISH)	YMX	
-		*	B60-0181-00	INSTRUCTION MANUAL(ENG,FRE)	E	
-		*	B60-0182-00	INSTRUCTION MANUAL(S,A,C)	M	
-		*	B60-0183-00	INSTRUCTION MANUAL(C,S)	E	
-		*	B60-0216-00	INSTRUCTION MANUAL(ENG.,FRE)	PE	
625	2D		D16-0302-04	BELT		
626	2C,3D		D39-0199-05	DAMPER		
⚠ 627	1F		E03-0114-05	AC OUTLET	X	
⚠ 628	1C		E03-0115-05	AC PLUG ADAPTER	M	
629	1C		E30-1392-05	CORD WITH PLUG	E	
⚠ 631	1F	*	E30-2635-05	AC POWER CORD	P	
⚠ 631	1F	*	E30-2636-05	AC POWER CORD	Y	

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KRX-69/89

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⚠ 631	1F	*	E30-2637-05	AC POWER CORD			X	
⚠ 631	1F	*	E30-2638-05	AC POWER CORD			ME	
632	2D	*	E31-7896-05	WIRING HARNESS(11P)				
633	2D	*	E31-7897-05	WIRING HARNESS(8P)				
634	2D,3D	*	E31-7898-05	WIRING HARNESS(10P)				
635	1E,2D	*	E31-7899-05	WIRING HARNESS(7P)				
636	2E,3D	*	E31-7901-05	WIRING HARNESS(6P)				
640	2C,3D	*	G01-3330-04	EXTENSION SPRING				
641	2C,3C	*	G02-0975-04	FLAT SPRING				
-		*	G11-2043-04	SOFT TAPE				
-		*	H01-8916-04	ITEM CARTON CASE				
-		*	H10-5075-11	POLYSTYRENE FOAMED FIXTURE				
-			H25-0232-04	PROTECTION BAG (235X350X0.03)				
-		*	H25-0635-04	PROTECTION BAG				
645	3E,3F		J02-0170-04	FOOT				
646	1F		J12-0091-05	PIN				
648	2C		J19-2815-04	ANTENNA HOLDER				
-			J61-0307-05	WIRE BAND				
654	2C	*	K29-4077-04	KNOB(SURROUND)				
655	2D	*	K29-4068-04	KNOB(EQ ON/OFF)				
657	2D	*	K29-4070-04	KNOB(STEREO/MONO)				
658	2D,3D	*	K29-4071-03	KNOB(EJECT)				
659	3C	*	K29-4072-03	KNOB(VOLUME CONTROL)				
660	3C	*	K29-4073-04	KNOB(MIC MIXING,REC BALANCE)				
661	2D	*	K29-4074-04	KNOB(GE)				
662	3C	*	K29-4075-04	KNOB(REC LEVEL)				
⚠ 663	1E	*	L07-0205-05	POWER TRANSFORMER			P	
⚠ 663	1E	*	L07-0206-15	POWER TRANSFORMER			M	
⚠ 663	1E	*	L07-0207-15	POWER TRANSFORMER			Y	
⚠ 663	1E	*	L07-0208-05	POWER TRANSFORMER			X	
⚠ 663	1E	*	L07-0209-05	POWER TRANSFORMER			E	
A	2C,3E		N09-0287-05	SEMS (TAPTITE SCREW)(3X8)				
B	3C		N89-2608-46	BINDING HEAD TAPTITE SCREW				
C	2C		N14-0134-05	HEXAGON NUT				
D	2D,3D		N86-3008-46	BINDING HEAD TAPTITE SCREW				
E	1E		N86-4008-46	BINDING HEAD TAPTITE SCREW				
F	1C,1F		N89-3008-45	BINDING HEAD TAPTITE SCREW				
G	1F		N08-0128-35	BINDING POST				
H	2D		N89-3008-46	BINDING HEAD TAPTITE SCREW				
L	2D,3D		N89-2606-46	BINDING HEAD TAPTITE SCREW				
664	1C		T90-0173-05	LOOP ANTENNA				
665	2C		T90-0176-05	T TYPE ANTENNA				
666	2C		T90-0177-05	ANTENNA ADAPTOR			E	
POWER SUPPLY UNIT (X00-267X-XX KRX-89: 0-10:K,P, 0-71:X KRX-69: 0-21:M, 0-72:X, 1-01:P, 2-71:E)								
⚠ C701,702			C91-0647-05	CERAMIC	0.01UF	P	KPMXE	
C703			CE04KW1E102M	ELECTRO	1000UF	25WV	KPMXE	
C705			CE04KW1H100M	ELECTRO	10UF	50WV	KPMXE	
C706			CF92FV1H103J	MF	0.010UF	J	KPMXE	
C707			CE04KW0J470M	ELECTRO	47UF	6.3WV	KPMXE	
C741			CF92FV1H103J	MF	0.010UF	J	KPMXE	
E1	1F	*	E03-0117-05	AC OUTLET			KP	
⚠ E2 ,3	1F	*	E03-0118-05	AC OUTLET			ME	

E: Scandinavia & Europe K: USA P: Canada 8:KRX-89
Y: PX(Far East,Hawaii) T: England M: Other Areas 6:KRX-69
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KRX-69/89

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F705	1E		F05-1623-05	FUSE (SEMKO) (250V T1.6A)	MXE	6
F705	1E		F05-6027-05	FUSE (UL) (250V 6A)	KP	8
F705	1E		F05-6321-05	FUSE (SEMKO) (250V T6.3A)	X	8
F705	1E		F06-4024-05	FUSE (UL) (250V 4A)	P	6
F706	1E		F05-2525-05	FUSE (SEMKO) (250V T2.5A)	E	6
670	1E	*	J13-0076-05	FUSE CLIP	KP	
670	1E	*	J13-0077-05	FUSE CLIP	MXE	
⚠ L701	1F	*	L07-0210-05	POWER TRANSFORMER	M	
⚠ L701	1F	*	L07-0212-05	POWER TRANSFORMER	KP	
⚠ L701	1F	*	L07-0213-05	POWER TRANSFORMER	E	
⚠ L701	1F	*	L07-0214-05	POWER TRANSFORMER	X	
H	1E		N89-3008-46	BINDING HEAD TAPTITE SCREW	KPMXE	
R704			RS14KB3A820J	FL-PROOF RS 82 J 1W	KPMXE	
R705			R92-0173-05	RC 2.2M M 1/2W	KP	
⚠ K701		*	S51-1059-05	MAGNETIC RELAY	MXE	
⚠ K701		*	S51-1060-05	MAGNETIC RELAY	KP	
⚠ S1	1E		S31-2322-05	SLIDE SWITCH (POWER TYPE)	M	
⚠ S2	1F		S31-2131-05	SLIDE SWITCH (POWER TYPE)	M	
D701,702			1SR139-100	DIODE	KPMXE	
D704			HSS104A	DIODE	KPMXE	
D704			1SS131	DIODE	KPMXE	
D725			HSS104	DIODE	KPMXE	
D725			1SS133	DIODE	KPMXE	
IC702			UPC7805H	IC(VOLTAGE REGULATOR/ +5V)	KPMXE	
Q701			2SC1741(Q,R)	TRANSISTOR	KPMXE	
POWER SUPPLY UNIT (X00-268X-XX KRX-89: 2-90:Y KRX-69: 2-91:Y)						
⚠ C701,702			C91-0647-05	CERAMIC 0.01UF P	Y	
C703			CE04KW1E102M	ELECTRO 1000UF 25WV	Y	
C705			CE04KW1H100M	ELECTRO 10UF 50WV	Y	
C706			CF92FV1H103J	MF 0.010UF J	Y	
C707			CE04KW0J470M	ELECTRO 47UF 6.3WV	Y	
C741			CF92FV1H103J	MF 0.010UF J	Y	
⚠ E1	1F	*	E03-0117-05	AC OUTLET	Y	
F705	1E		F05-4022-05	FUSE (250V 4A)	Y	6
F705	1E		F05-6021-05	FUSE (250V 6A)	Y	8
670	1E	*	J13-0076-05	FUSE CLIP	Y	
⚠ L701	1F	*	L07-0210-05	POWER TRANSFORMER	Y	
H	1E		N89-3008-46	BINDING HEAD TAPTITE SCREW	Y	
R704			RS14KB3A820J	FL-PROOF RS 82 J 1W	Y	
⚠ K701		*	S51-1060-05	MAGNETIC RELAY	Y	
⚠ S1 ,2	1E,1F		S31-2131-05	SLIDE SWITCH (POWER TYPE)	Y	
D701,702			1SR139-100	DIODE	Y	
D704			HSS104A	DIODE	Y	
D704			1SS131	DIODE	Y	
D725			HSS104	DIODE	Y	
D725			1SS133	DIODE	Y	
IC702			UPC7805H	IC(VOLTAGE REGULATOR/ +5V)	Y	

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Q701			2SC1741(Q,R)	TRANSISTOR	Y	
TUNER UNIT (X05-400X-XX KRX-89: 0-10:K,P, 0-21:Y, 0-71:X KRX-69: 0-10:P, 0-21:Y,M, 0-71:X, 2-71:E)						
C1			CK45FF1H473Z	CERAMIC 0.047UF Z		
C2 ,3			CK45FF1H103Z	CERAMIC 0.010UF Z	E	
C4			CK45FF1H473Z	CERAMIC 0.047UF Z	E	
C5		*	CC45FTH1H391J	CERAMIC 390PF J		
C6		*	CC45FRH1H151J	CERAMIC 150PF J	E	
C7		*	CC45FRH1H361J	CERAMIC 360PF J	E	
C8			CK45FF1H473Z	CERAMIC 0.047UF Z		
C9			CE04KW1E100M	ELECTRO 10UF 25WV		
C10			CK45FF1H223Z	CERAMIC 0.022UF Z		
C11 ,12			CK45FF1H473Z	CERAMIC 0.047UF Z	E	
C13			CE04KW1H3R3M	ELECTRO 3.3UF 50WV		
C14			CK45FF1H473Z	CERAMIC 0.047UF Z		
C15			CK45FF1H223Z	CERAMIC 0.022UF Z		
C16			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C17 ,18			CE04KW1E4R7M	ELECTRO 4.7UF 25WV		
C19			CK45FF1H473Z	CERAMIC 0.047UF Z		
C20			CF92FV1H153J	MF 0.015UF J		
C21			CF92FV1H472J	MF 4700PF J		
C22		*	CC45FRH1H680J	CERAMIC 68PF J	E	
C23			CK45FF1H223Z	CERAMIC 0.022UF Z		
C24			CC45FCH1H220J	CERAMIC 22PF J		
C26			CK45FF1H223Z	CERAMIC 0.022UF Z		
C41 ,42			CC45FSL1H101J	CERAMIC 100PF J		
C48			CK45FF1H103Z	CERAMIC 0.010UF Z		
C49 ,50			CE04KW1C470M	ELECTRO 47UF 16WV		
C51			CK45FF1H103Z	CERAMIC 0.010UF Z		
C52 ,53			CK45FF1H223Z	CERAMIC 0.022UF Z		
C54			CK45FF1H473Z	CERAMIC 0.047UF Z		
C55			CE04KW1C330M	ELECTRO 33UF 16WV		
C56			CE04KW1H0R1M	ELECTRO 0.1UF 50WV		
C57			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C58			CC45FSL1H101J	CERAMIC 100PF J		
C59			C90-1332-05	NP-ELEC 10UF 25WV		
C60			CK45FF1H103Z	CERAMIC 0.010UF Z		
C61			CF92FV1H473J	MF 0.047UF J		
C62			CC93FCH1H471J	CERAMIC 470PF J		
C63			CE04KW1H3R3M	ELECTRO 3.3UF 50WV		
C64			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C65			CE04KW1HR22M	ELECTRO 0.22UF 50WV		
C66			CE04KW1C471M	ELECTRO 470UF 16WV		
C67 ,68			CE04KW1E100M	ELECTRO 10UF 25WV		
C69 ,70			CF92FV1H152J	MF 1500PF J		
C71 ,72			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C73			CF92FV1H562J	MF 5600PF J	YM	
C74 ,75			CF92FV1H123J	MF 0.012UF J	KP	
C74 ,75			CF92FV1H682J	MF 6800PF J	YMXE	
C76			CF92FV1H562J	MF 5600PF J	YM	
C78			CF92FV1H473J	MF 0.047UF J		
C79			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C80 ,81			CK45FF1H103Z	CERAMIC 0.010UF Z		
C82 ,83			CC45FCH1H220J	CERAMIC 22PF J		
C84			CK45FF1H473Z	CERAMIC 0.047UF Z		

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C85 ,86			CE04KW1E100M	ELECTRO 10UF 25WV		
C201,202			CC45FSL1H101J	CERAMIC 100PF J		
C203,204			CE04KW1E4R7M	ELECTRO 4.7UF 25WV		
C205,206			CE04KW1A101M	ELECTRO 100UF 10WV		
C209,210			CF92FV1H123J	MF 0.012UF J		
C211,212			CF92FV1H332J	MF 3300PF J		
C213,214			CE04KW1E100M	ELECTRO 10UF 25WV		
C215,216			C91-0700-05	CERAMIC 0.1UF J		
C217,218			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C219,220			CC45FSL1H101J	CERAMIC 100PF J		
C223-225			CC45FSL1H101J	CERAMIC 100PF J		
C226,227			CE04KW1E100M	ELECTRO 10UF 25WV		
C228			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C230			CC45FSL1H220J	CERAMIC 22PF J		
TC1			C05-0097-05	CERAMIC TRIMMER CAPACITOR 30PF	E	
TC2			C05-0302-05	CERAMIC TRIMMER CAPACITOR 11PF		
E1	2F		E20-0321-05	LOCK TERMINAL BOARD (ANTENNA)	E	
E1	2F		E20-0476-05	LOCK TERMINAL BOARD (ANTENNA)	KPYMX	
E2	2F	*	E13-2209-05	PHONO JACK(2P) (PHONO)		
E3	2F	*	E13-0638-05	PHONO JACK(6P) (VIDEO/AUX,CD)		
E4	2F	*	E13-2209-05	PHONE JACK(2P) (ADAPTOR IN)		
E5	2F		E11-0168-05	MINIATURE PHONE JACK(S.CONTROL		
CF1 ,2			L72-0531-05	CERAMIC FILTER	KPYMX	
CF1 ,2			L72-0536-05	CERAMIC FILTER	E	
CF3		*	L72-0568-05	CERAMIC FILTER		
CF4			L72-0096-05	CERAMIC FILTER		
L1			L40-1091-17	SMALL FIXED INDUCTOR 1uH		
L2		*	L31-0606-05	MW-RF COIL		
L3		*	L31-0607-05	LW-RF COIL	E	
L4		*	L32-0525-05	MW OSCILLATING COIL		
L5 ,6		*	L35-0066-05	MPX COIL		
L7			L40-1021-14	SMALL FIXED INDUCTOR 1mH		
T2		*	L30-0489-05	AM IFT		
T3		*	L30-0490-05	FM IFT		
X2			L77-1122-05	CRYSTAL RESONATOR(7.2MHz)		
H	2F		N89-3008-46	BINDING HEAD TAPTITE SCREW		
VR1			R12-3126-05	TRIMMING POT.(10K)AM T-LEVEL		
VR2			R12-3128-05	TRIMMING POT.(22K)FM T-LEVEL		
VR3			R12-1089-05	TRIMMING POT.(4.7K)VCO		
VR4			R12-5060-05	TRIMMING POT.(220K)SEPARATION	E	
S1	2F	*	S31-1037-05	SLIDE SWITCH(CH.SPACE,DE-EM.)	YM	
D1 ,2			HSS104	DIODE		
D1 ,2			1SS133	DIODE		
D3 ,4			SVC321	VARIABLE CAPACITANCE DIODE		
D7 ,8			HSS104	DIODE	E	
D7 ,8			1SS133	DIODE	E	
D11 -13			HSS104	DIODE		
D11 -13			1SS133	DIODE		
D20			HZS6.2N(B)	ZENER DIODE		
D20			RD6.2ES(B)	ZENER DIODE		
D23 ,24			HSS104	DIODE	YM	
D23 ,24			1SS133	DIODE	YM	
D25			HSS104	DIODE		

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KRX-69/89

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D25			1SS133	DIODE		
D201-207			HSS104	DIODE		
D201-207			1SS133	DIODE		
IC1			LA1265	IC(FM/AM TUNER)		
IC2			AN7470	IC(FM MPX)		
IC3			LM7001	IC(PLL FREQUENCY SYNTHESIZER)		
IC201			NJM4580D-D	IC(OP AMP X2)		
IC202			LC7822N	IC(FUNCTION CONTROL SWITCH)		
IC203			NJM4565D	IC(OP AMP X2)		
Q2			2SC1740S(Q,R)	TRANSISTOR	E	
Q2			2SC945(A)(Q,P)	TRANSISTOR	E	
Q3 ,4			2SC1923(R,O)	TRANSISTOR	E	
Q5 ,6			2SC1740S(Q,R)	TRANSISTOR	E	
Q5 ,6			2SC945(A)(Q,P)	TRANSISTOR	E	
Q7			2SC1923(R,O)	TRANSISTOR		
Q8		*	2SK364	FET	E	
Q9			2SC1845(F,E)	TRANSISTOR		
Q10			2SC1740S(Q,R)	TRANSISTOR		
Q10			2SC945(A)(Q,P)	TRANSISTOR		
Q14			2SA733(A)(Q,P)	TRANSISTOR	E	
Q14			2SA933S(Q,R)	TRANSISTOR	E	
Q15 ,16			2SA733(A)(Q,P)	TRANSISTOR		
Q15 ,16			2SA933S(Q,R)	TRANSISTOR		
Q17			2SA733(A)(Q,P)	TRANSISTOR	E	
Q17			2SA933S(Q,R)	TRANSISTOR	E	
Q18 ,19			2SC1740S(Q,R)	TRANSISTOR	YM	
Q18 ,19			2SC945(A)(Q,P)	TRANSISTOR	YM	
Q20			2SC2003(L,K)	TRANSISTOR		
Q201			DTA124ES	DIGITAL TRANSISTOR		
Q202			DTC124ES	DIGITAL TRANSISTOR		
Q203,204			2SC2878(B)	TRANSISTOR		
TU1	2F		W02-1042-05	FM FRONT-END ASSY		
POWER AMPLIFIER UNIT (X07-261X-XX KRX-89: 0-10:K,P, 0-71:X, 2-91:Y KRX-69: 1-01:P, 2-71:M,X,E, 2-92:Y)						
C601,602			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C603,604			CC45FSL1H331J	CERAMIC 330PF J		
C605,606			CC45FSL1H680J	CERAMIC 68PF J		
C607,608			CE04KW1A101M	ELECTRO 100UF 10WV		
C609,610			CC45FSL1H680J	CERAMIC 68PF J		
C611,612			CC45FSL1H020C	CERAMIC 2.0PF C		6
C611,612			CC45FSL1H040C	CERAMIC 4.0PF C		8
C613,614			CC45FSL1H220J	CERAMIC 22PF J		6
C613,614			CC45FSL1H390J	CERAMIC 39PF J		8
C615,616			CC45FSL1H221J	CERAMIC 220PF J		
C617,618			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C619,620			CF92FV1H103J	MF 0.010UF J		
C621,622			CF92FV1H473J	MF 0.047UF J		
C623,624			CF92FV1H103J	MF 0.010UF J		
C625			CE04KW1H3R3M	ELECTRO 3.3UF 50WV		
C629			CE04KW1E220M	ELECTRO 22UF 25WV		
C630			CE04KW1E470M	ELECTRO 47UF 25WV		
C631			CE04KW1H4R7M	ELECTRO 4.7UF 50WV		
C632			CE04KW0J331M	ELECTRO 330UF 6.3WV		
C635,636		*	C90-1635-05	ELECTRO 220UF 180WV		

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C637,638			CC45FSL1H150J	CERAMIC 15PF J		
C639,640			CF92FV1H473J	MF 0.047UF J		
C708,709			CK45FF1H103Z	CERAMIC 0.010UF Z		
C710			CE04KW1V222M	ELECTRO 2200UF 35WV		
C711			CE04KW1C331M	ELECTRO 330UF 16WV		
C712			CE04KW1C221M	ELECTRO 220UF 16WV		
C713			CE04KW1V100M	ELECTRO 10UF 35WV		
C714			CE04KW1E470M	ELECTRO 47UF 25WV		
C716			CK45FF1H103Z	CERAMIC 0.010UF Z		
C717,718			CE04KW1E102M	ELECTRO 1000UF 25WV		
C719			CK45FF1H103Z	CERAMIC 0.010UF Z		
C720-725			CE04KW1C221M	ELECTRO 220UF 16WV		
C726,727		*	C90-1833-05	ELECTRO 8200UF 71WV		8
C726,727		*	C90-1834-05	ELECTRO 3300UF 50WV		6
C728			CE04KW1H101M	ELECTRO 100UF 50WV		
C729,730			CK45FE2H103P	CERAMIC 0.010UF P		
C731,732			CF92FV1H103J	MF 0.010UF J		
C733			CE04KW1H101M	ELECTRO 100UF 50WV		
⚠ F701,702	2E		F05-5013-05	FUSE (250V 0.5A)	Y	
⚠ F701,702	2E		F05-5016-05	FUSE (SEMKO) (250V T500mA)	MXE	
⚠ F701,702	2E		F06-5014-05	FUSE (UL) (250V 0.5A)	KP	
⚠ F703	2E		F05-2023-05	FUSE (250V 2A)	Y	
⚠ F703	2E		F06-2021-05	FUSE (SEMKO) (250V T2A)	MXE	
⚠ F703	2E		F06-2027-05	FUSE (UL) (250V 2A)	KP	
670	2E	*	J13-0076-05	FUSE CLIP	KPY	
670	2E	*	J13-0077-05	FUSE CLIP	MXE	
L601,602			L39-0085-05	PHASE-COMPENSATION COIL		
K	2F		N09-0333-05	HEXAGON HEAD BOLT(M3X8,+)		
CP1 ,2			R90-0187-05	MULTI-COMP 0.22X2 K 5W		
R609,610		*	RD14AB2E103J	FL-PROOF RD 10K J 1/4W		8
R609,610			RD14AB2E682J	FL-PROOF RD 6.8K J 1/4W		6
R621,622			RD14AB2E221J	FL-PROOF RD 220 J 1/4W		
R623,624			RD14GB2E221J	FL-PROOF RD 220 J 1/4W		
R625,626			RD14AB2E271J	FL-PROOF RD 270 J 1/4W		
R635			RD14GB2E220J	FL-PROOF RD 22 J 1/4W		
R636			RD14AB2E220J	FL-PROOF RD 22 J 1/4W		
R637,638			R92-0508-05	FUSE RESIST 22 G 1/4W		
R639-642			RD14AB2E331J	FL-PROOF RD 330 J 1/4W		
R643			RD14AB2E2R2J	FL-PROOF RD 2.2 J 1/4W		
R644			RD14GB2E2R2J	FL-PROOF RD 2.2 J 1/4W		
R645,646			RD14AB2E2R2J	FL-PROOF RD 2.2 J 1/4W		
R649,650			RD14GB2E122J	FL-PROOF RD 1.2K J 1/4W		
R653,654			RS14KB3D100J	FL-PROOF RS 10 J 2W		
R659,660			RD14AB2E100J	FL-PROOF RD 10 J 1/4W		
R677			RS14KB3D271J	FL-PROOF RS 270 J 2W		
R678,679			RS14DB3A470J	FL-PROOF RS 47 J 1W		
R710			RD14AB2E102J	FL-PROOF RD 1.0K J 1/4W		
R713			RD14AB2E471J	FL-PROOF RD 470 J 1/4W		
R716			RD14GB2E471J	FL-PROOF RD 470 J 1/4W		
R719			RD14AB2E471J	FL-PROOF RD 470 J 1/4W		
R721		*	R92-1738-05	RN 1.0K J 3W		6
R721		*	R92-1739-05	RN 1.8K J 3W		8

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R730,731			RD14AB2E331J	FL-PROOF RD 330 J 1/4W		
R750			RS14KB3D150J	FL-PROOF RS 15 J 2W		
VR601,602			R12-1085-05	TRIM POT. 2.2K		
K601		*	S51-2097-05	MAGNETIC RELAY		
D601			HSS104	DIODE		
D601			1SS133	DIODE		
D602			HSS104A	DIODE		
D602			1SS131	DIODE		
D603-608			HSS104	DIODE		
D603-608			1SS133	DIODE		
D621			1SR139-100	DIODE		
D630			HZS5.1N(B)	ZENER DIODE		
D630			RD5.1ES(B)	ZENER DIODE		
D708		*	HZS12N(B2)	ZENER DIODE		
D708			RD12ES(B2)	ZENER DIODE		
D710-713			1SR139-100	DIODE		
D714-716		*	HZS12N(B2)	ZENER DIODE		
D714-716			RD12ES(B2)	ZENER DIODE		
D717-720			1SR139-100	DIODE		
D721		*	DBF40C	DIODE		6
D721		*	DBF60C	DIODE		8
D725		*	RD18F(B)	ZENER DIODE		6
D725			RD24F(B)	ZENER DIODE		8
IC601			UPC1237HA	IC(POWER AMP)		
IC701			UPC7815H	IC(AVR)		
Q601,602			2SC2878(B)	TRANSISTOR		
Q603-606			2SA992(E,F)	TRANSISTOR		
Q607,608			2SA1123	TRANSISTOR		
Q609-612			2SC2631	TRANSISTOR		6
Q609-612			2SC2632	TRANSISTOR		8
Q613,614			2SC4137(V,W)	TRANSISTOR		
Q615,616			2SC2590	TRANSISTOR		6
Q615,616			2SC3944	TRANSISTOR		8
Q617			2SA1110	TRANSISTOR		6
Q617		*	2SA1535	TRANSISTOR		8
Q619,620			2SC4467	TRANSISTOR		6
Q619,620			2SD1718	TRANSISTOR		8
Q621,622			2SA1694	TRANSISTOR		6
Q621,622			2SB1163	TRANSISTOR		8
Q623,624			2SA733(A)(Q,P)	TRANSISTOR		
Q623,624			2SA933S(Q,R)	TRANSISTOR		
Q638			2SA1110	TRANSISTOR		6
Q638		*	2SA1535	TRANSISTOR		8
Q703,704		*	2SD1913	TRANSISTOR		
Q705		*	2SB1274	TRANSISTOR		
Q706		*	2SD1913	TRANSISTOR		
CONTROL UNIT (X11-299X-XX KRX-89: 0-10 KRX-69: 0-11:P,Y,M,X, 2-71:E)						
D830-835		*	B30-1294-05	LED(INPUT SELECTOR,STAND-BY)		
D836		*	B30-1295-05	LED(VOL.)		
D839		*	B30-1296-05	LED(POWER)		
D901		*	B30-1294-05	LED(EQUALIZER)		
D902		*	B30-1296-05	LED(SURROUND)		6
C251			CC45FSL1H101J	CERAMIC 100PF J		

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C252			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C253			CE04KW1E330M	ELECTRO 33UF 25WV		
C254			CF92FV1H122J	MF 1200PF J		
C255			CF92FV1H224J	MF 0.22UF J		
C256			CE04KW1E100M	ELECTRO 10UF 25WV		
C257			C91-0700-05	CERAMIC 0.1UF J		
C258			CE04KW1E100M	ELECTRO 10UF 25WV		
C259			C91-0700-05	CERAMIC 0.1UF J		
C801,802			CK45FB1H331K	CERAMIC 330PF K		
C803			CE04KW0J221M	ELECTRO 220UF 6.3WV		
C807			CK45FF1H103Z	CERAMIC 0.010UF Z		
C809,810			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C811-814			CK45FF1H103Z	CERAMIC 0.010UF Z		
C817,818			CK45FB1H331K	CERAMIC 330PF K		
C819,820			CC45FSL1H221J	CERAMIC 220PF J		
C821			CK45FF1H103Z	CERAMIC 0.010UF Z		
C824			CE04KW1E100M	ELECTRO 10UF 25WV		
C825			C91-0700-05	CERAMIC 0.1UF J		
C828			CE04KW1H100M	ELECTRO 10UF 50WV		
C830			CK45FF1H103Z	CERAMIC 0.010UF Z		
C831			CE04KW0J221M	ELECTRO 220UF 6.3WV		
C832			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C833			C91-0937-05	BACKUP 0.047F 5.5WV		
C834			CK45FF1H103Z	CERAMIC 0.010UF Z		
C901,902			CC45FSL1H101J	CERAMIC 100PF J		
C903,904			CE04KW1E100M	ELECTRO 10UF 25WV		
C905			CF92FV1H474J	MF 0.47UF J		
C906			CF92FV1H272J	MF 2700PF J		
C907			CF92FV1H564J	MF 0.56UF J		
C908			CF92FV1H362J	MF 3600PF J		
C909-912			C91-0700-05	CERAMIC 0.1UF J		
C913			CF92FV1H913J	MF 0.091UF J		
C914			CF92FV1H912J	MF 9100PF J		
C915			CF92FV1H124J	MF 0.12UF J		
C916			CF92FV1H123J	MF 0.012UF J		
C917,918			CC45FSL1H101J	CERAMIC 100PF J		
C919,920			CF92FV1H273J	MF 0.027UF J		
C921,922			CF92FV1H363J	MF 0.036UF J		
C923,924			CE04KW1E100M	ELECTRO 10UF 25WV		
C925			CF92FV1H912J	MF 9100PF J		
C926			CF92FV1H913J	MF 0.091UF J		
C927			CF92FV1H123J	MF 0.012UF J		
C928			CF92FV1H124J	MF 0.12UF J		
C929			CF92FV1H272J	MF 2700PF J		
C930			CF92FV1H474J	MF 0.47UF J		
C931			CF92FV1H362J	MF 3600PF J		
C932			CF92FV1H564J	MF 0.56UF J		
C933,934			CF92FV1H153J	MF 0.015UF J		6
C935			CK45FF1H103Z	CERAMIC 0.010UF Z		6
C938,939			CK45FB1H391K	CERAMIC 390PF K		6
C940-942			CE04KW1E100M	ELECTRO 10UF 25WV		6
C943			CK45FF1H103Z	CERAMIC 0.010UF Z		6
C944,945			CE04JW1V100M	ELECTRO 10UF 35WV		
C946			CE04KW1E100M	ELECTRO 10UF 25WV		6
C947,948			CK45FB1H222K	CERAMIC 2200PF K		

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C949			CE04KW0J221M	ELECTRO 220UF 6.3WV		
E251	2C	*	E11-0215-05	PHONE JACK (MIC)		
X801,802		*	L78-0278-05	RESONATOR (400KHz)		
VR251	1C	*	R05-3017-05	POTENTIOMETER(10K B)MIC MIXING		
VR801	2D	*	R29-5047-05	POTENTIOMETER(100K B X2)VOLUME		
VR802	1D	*	R05-3016-05	POTENTIOMETER(20K B)BALANCE		
VR901-910	1D	*	R13-3051-05	POTENTIOMETER GE VOLUME		
S801-813	1D	*	S40-1156-05	PUSH SWITCH(1-10,TUNING,AUTO)		
S815-818	1D	*	S40-1156-05	PUSH SWITCH(MEMORY,A/B,FM,AM)		
S819	1D	*	S40-1156-05	PUSH SWITCH(LW)	E	
S820	1D	*	S40-2378-05	PUSH SWITCH(STEREO/MONO)		
S821-827	1D	*	S40-1156-05	PUSH SWITCH(INPUT SELECTOR)		
S901	1D	*	S40-2379-05	PUSH SWITCH(EQ SW)		
D251,252			HSS104	DIODE		
D251,252			1SS133	DIODE		
D801			HSS104	DIODE	E	
D801			1SS133	DIODE	E	
D802			HSS104	DIODE		
D802			1SS133	DIODE		
D805		*	HZS9.1N(B)	ZENER DIODE		
D805		*	RD9.1ES(B)	ZENER DIODE		
D806-822			HSS104	DIODE		
D806-822			1SS133	DIODE		
D824			HZS4.7N(B)	ZENER DIODE		
D824			RD4.7ES(B)	ZENER DIODE		
D825-829			HSS104	DIODE		
D825-829			1SS133	DIODE		
D840			HSS104	DIODE		
D840			1SS133	DIODE		
D841			HZS2.7N(B2)	ZENER DIODE		
D841			RD2.7ES(B2)	ZENER DIODE		
D842-845			HSS104	DIODE		
D842-845			1SS133	DIODE		
D851-853			HSS104	DIODE		
D851-853			1SS133	DIODE		
FL1	1D		FIP8BRM7A	FLUORESCENT INDICATOR TUBE		
IC251			NJM4565D	IC(OP AMP X2)		
IC801			UPD7538AC-045	IC(MICROPROCESSOR)		
IC802			UPD7538AC-052	IC(MICROPROCESSOR)		
IC803			NJM2903D	IC(DUAL COMPARATOR)		
IC804			LB1641	IC(MOTOR DRIVER)		
IC901-906		*	NJM4565L-D	IC(OP AMP X2)		
IC907			NJM4580D-D	IC(OP AMP X2)		
IC908			LC4966	IC(CMOS LOGIC BILATERAL SW)		6
IC909			NJM4565D	IC(OP AMP X2)		6
Q801			2SA937F	TRANSISTOR		
Q804-806			2SC2021F	TRANSISTOR		
Q807			DTA124ES	DIGITAL TRANSISTOR		
Q809			DTA124ES	DIGITAL TRANSISTOR		
Q811			2SA733(A)(Q,P)	TRANSISTOR		
Q811			2SA933S(Q,R)	TRANSISTOR		
Q812			2SC1740S(Q,R)	TRANSISTOR		

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Q812			2SC945(A)(Q,P)	TRANSISTOR		
Q901			DTC114EFF	DIGITAL TRANSISTOR		6
Q902			DTA124ES	DIGITAL TRANSISTOR		6
Q903			DTC114EFF	DIGITAL TRANSISTOR		6
A801	1D	*	W02-1052-05	OPTIC RECEIVING MODULE		
SUB-CIRCUIT UNIT (X13-6590-10)						
D330-340		*	B30-1294-05	LED(LEVEL)		
D341		*	B30-1295-05	LED(A FWD)		
D342		*	B30-1294-05	LED(L-6)		
D343		*	B30-1295-05	LED(B FWD)		
D344		*	B30-1294-05	LED(N DUB)		
D345,346		*	B30-1295-05	LED(A RVS,B RVS)		
D347-350		*	B30-1294-05	LED(H DUB,R-0,L-0,CCRS)		
C309,310			CE04KW1V100M	ELECTRO 10UF 35WV		
VR301	3D	*	R10-4037-05	POTENTIOMETER(5KAX2)RECBALANCE		
VR302	3D	*	R05-5036-05	POTENTIOMETER(20K B)REC LEVEL		
S301-315	3D,3E	*	S40-1156-05	PUSH SWITCH(DECK SW)		
S316-318	2D		S31-1033-05	SLIDE SWITCH(TIMER,NR)		
D351-368			HSS104	DIODE		
D351-368			1SS133	DIODE		
Q347-351			2SC1740S(Q,R)	TRANSISTOR		
Q347-351			2SC945(A)(Q,P)	TRANSISTOR		
SWITCH UNIT (X13-660X-XX KRX-69: 0-10:K,P, 2-91:X,Y)						
675	2F		E20-0823-05	LOCK TERMINAL BOARD(SPEAKERS)		8
JK601	2C	*	E11-0216-05	PHONE JACK (PHONES)		8
R681,682			RS14KB3D561J	FL-PROOF RS 560 J 2W		8
S601	2C	*	S42-2177-05	MULTIPLE PUSH SWITCH(SP-SELECT		8
S701	1F		S31-2136-05	SLIDE SWITCH(SP.IMPE.-SEL)	YX	8
D606,607			HSS104	DIODE		8
D606,607			1SS133	DIODE		8
SWITCH UNIT (X13-661X-XX KRX-89 :1-00:P, 2-71:Y,M,X,E)						
675	2F	*	E20-0842-05	LOCK TERMINAL BOARD(SPEAKERS)		6
JK601	2C	*	E11-0217-05	PHONE JACK (PHONES)		6
F1 ,2	1F	*	F53-0011-05	FUSE (250V 5A)	YMXE	6
R681,682			RS14KB3D561J	FL-PROOF RS 560 J 2W		6
S602	2C	*	S40-2377-05	PUSH SWITCH (SURROUND SW)		6
S701	1F		S31-2136-05	SLIDE SWITCH (SP.IMPE.-SEL.)	YMXE	6
D606,607			HSS104	DIODE		6
D606,607			1SS133	DIODE		6
RECORD/PLAYBACK UNIT (X28-2250-10)						
C301			CE04KW1V100M	ELECTRO 10UF 35WV		
C302			CE04KW1A101M	ELECTRO 100UF 10WV		
C303,304			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C305,306			CC45FSL1H101J	CERAMIC 100PF J		
C307,308			CE04KW1V100M	ELECTRO 10UF 35WV		
C314			CE04KW1E101M	ELECTRO 100UF 25WV		
C315-320			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		

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C321			CE04KW1HR68M	ELECTRO 0.68UF 50WV		
C322			CE04KW1A101M	ELECTRO 100UF 10WV		
C323			CE04KW1C220M	ELECTRO 22UF 16WV		
C324			CE04KW1HR68M	ELECTRO 0.68UF 50WV		
C325,326			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C327,328			CE04KW1V100M	ELECTRO 10UF 35WV		
C329,330			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C331,332			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C333,334			CK45FB1H391K	CERAMIC 390PF K		
C335,336			CC45FSL1H121J	CERAMIC 120PF J		
C337,338			CK45FB1H561K	CERAMIC 560PF K		
C339-342			CK45FB1H391K	CERAMIC 390PF K		
C343,344			CF92FV1H103J	MF 0.010UF J		
C345,346			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C347,348			CF92FV1H223J	MF 0.022UF J		
C349			CE04KW1A101M	ELECTRO 100UF 10WV		
C350,351			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C352,353			CC45FSL1H221J	CERAMIC 220PF J		
C356			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C357			CQ93HP2A122J	MYLAR 1200PF J		
C358			CQ93HP2A103J	MYLAR 0.010UF J		
C359			CE04KW1V100M	ELECTRO 10UF 35WV		
C360			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C361			CE04KW1V100M	ELECTRO 10UF 35WV		
C362			CF92FV1H822J	MF 8200PF J		
C363,364			CF92FV1H332J	MF 3300PF J		
C365			CE04KW1C331M	ELECTRO 330UF 16WV		
C366			CE04KW1V100M	ELECTRO 10UF 35WV		
C367			CE04KW1A101M	ELECTRO 100UF 10WV		
C368			CE04KW1V100M	ELECTRO 10UF 35WV		
C369			CE04KW1A101M	ELECTRO 100UF 10WV		
C370,371			CE04KW1HR22M	ELECTRO 0.22UF 50WV		
C372,373			CE04KW1V100M	ELECTRO 10UF 35WV		
C374,375			CF92FV1H332J	MF 3300PF J		
C376			CE04KW0J221M	ELECTRO 220UF 6.3WV		
C377			CK45FF1H223Z	CERAMIC 0.022UF Z		
C378,379			CC45FCH1H330J	CERAMIC 33PF J		
C380,381			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C382			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C383			CE04KW1E101M	ELECTRO 100UF 25WV		
C384			CE04KW0J471M	ELECTRO 470UF 6.3WV		
C385,386			CE04KW1A101M	ELECTRO 100UF 10WV		
C387			CE04KW1C102M	ELECTRO 1000UF 16WV		
C388			CE04KW1A101M	ELECTRO 100UF 10WV		
C389			CE04DW1C471M	ELECTRO 470UF 16WV		
C390			CE04KW1A101M	ELECTRO 100UF 10WV		
C392			CE04KW0J222M	ELECTRO 2200UF 6.3WV		
C393			CE04KW1V100M	ELECTRO 10UF 35WV		
CN4 ,5			E10-0408-05	FLAT CABLE CONNECTOR		
L301,302		*	L39-0198-05	TRAP COIL		
L305,306		*	L39-0198-05	TRAP COIL		
L307		*	L32-0526-05	BIAS OSCILATING COIL		
X301		*	L78-0279-05	RESONATOR (4MHz)		

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H	1E		N89-3008-46	BINDING HEAD TAPTITE SCREW		
CP301,302			R90-0487-05	MULTI-COMP 47KX4 J 1/6W		
CP303			R90-0415-05	MULTI-COMP 4.7KX3 J 1/6W		
CP304			R90-0227-05	MULTI-COMP 4.7KX6 J 1/6W		
CP305,306		*	R90-0867-05	MULTI-COMP PFX4 M		
VR303-306			R12-3128-05	TRIMMING POT.(22K)P.B SELECTOR		
VR307,308			R12-5058-05	TRIM POT. 100K		
VR309,310			R12-3128-05	TRIMMING POT.(22K)REC LEVEL		
VR311-314			R12-3126-05	TRIMMING POT.(10K)TAPE SPEED		
K301			S51-2089-05	MAGNETIC RELAY		
D301			HZS7.5S(B)	ZENER DIODE		
D301			RD7.5JS(B)	ZENER DIODE		
D302			HZS8.2N(B2)	ZENER DIODE		
D302			RD8.2ES(B2)	ZENER DIODE		
D303-307			HSS104	DIODE		
D303-307			1SS133	DIODE		
D308			HZS6.2N(B2)	ZENER DIODE		
D308			RD6.2ES(B2)	ZENER DIODE		
D309-328			HSS104	DIODE		
D309-328			1SS133	DIODE		
D329			HSS104A	DIODE		
D329			1SS131	DIODE		
D369-372			HSS104	DIODE		
D369-372			1SS133	DIODE		
IC301			NJM4565L	IC(OP AMP X2)		
IC302			TC4052BP	IC(4CH MPX/DE-MPX)		
IC304			TC4052BP	IC(4CH MPX/DE-MPX)		
IC305			NJM4565L	IC(OP AMP X2)		
IC306			CXA1100	IC(DOLBY B NR)		
IC307			BA6138	IC(ROOT AMP X2)		
IC308			M50941-338SP	IC(MICROPROCESSOR)		
IC309			LA3246	IC(PREAMP X2)		
IC310			TC4051BP	IC(8CH MPX/ DE-MPX)		
IC311			CXA1198AP	IC(CASSETTE DECK REC EQUALIZER		
IC312			PST520F	IC(LOW POWER RESET)		
Q301-303			DTC114EFF	DIGITAL TRANSISTOR		
Q305,306			2SC2878(A,B)	TRANSISTOR		
Q309			DTC114EFF	DIGITAL TRANSISTOR		
Q310			DTA124ES	DIGITAL TRANSISTOR		
Q311,312			2SC1740S(Q,R)	TRANSISTOR		
Q311,312			2SC945(A)(Q,P)	TRANSISTOR		
Q313-323			DTC114EFF	DIGITAL TRANSISTOR		
Q324			2SC2240	TRANSISTOR		
Q325			2SC2060	TRANSISTOR		
Q326,327			2SC1815	TRANSISTOR		
Q328-331			DTC114EFF	DIGITAL TRANSISTOR		
Q332			DTA124ES	DIGITAL TRANSISTOR		
Q333,334			2SC2878(A,B)	TRANSISTOR		
Q335			2SC2060	TRANSISTOR		
Q336			2SC3246	TRANSISTOR		
Q337			2SA733(A)(Q,P)	TRANSISTOR		
Q337			2SA933S(Q,R)	TRANSISTOR		
Q338			2SC1740S(Q,R)	TRANSISTOR		

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Q338			2SC945(A)(Q,P)	TRANSISTOR		
Q339			2SC3246	TRANSISTOR		
Q340			2SA1286	TRANSISTOR		
Q341			2SC1740S(Q,R)	TRANSISTOR		
Q341			2SC945(A)(Q,P)	TRANSISTOR		
Q342			2SA1286	TRANSISTOR		
Q343			2SC1740S(Q,R)	TRANSISTOR		
Q343			2SC945(A)(Q,P)	TRANSISTOR		
Q344			2SA733(A)(Q,P)	TRANSISTOR		
Q344			2SA933S(Q,R)	TRANSISTOR		
Q345,346			2SC1740S(Q,R)	TRANSISTOR		
Q345,346			2SC945(A)(Q,P)	TRANSISTOR		
Q352			2SC1740S(Q,R)	TRANSISTOR		
Q352			2SC945(A)(Q,P)	TRANSISTOR		
Q353			2SA733(A)(Q,P)	TRANSISTOR		
Q353			2SA933S(Q,R)	TRANSISTOR		
Q401,402			2SC2878(A,B)	TRANSISTOR		
MECHANISM ASSY (D40-091X-XX: 2-05;A, 3-05;B)						
301	2A		A10-2725-08	HEAD CHASSIS CALKED ASSY		
302	3A,3B		A10-2727-08	CHASSIS CALKED ASSY		
304	2B		D01-0121-08	FLYWHEEL ASSY		
305	2B		D01-0123-08	FLYWHEEL ASSY		
306	1A		D03-0283-08	SUPPLY REEL DISK ASSY		
307	1A		D03-0284-08	REEL DISK ASSY		
308	2A,3A		D03-0285-08	BLAKE LOD		
309	2A		D10-2438-08	F,R ROD		
310	2A		D10-2439-08	REWIND ARM		
311	3A		D10-2440-08	SWITCH LEVER		
312	3A		D10-2441-08	LOCK LEVER		
313	2A,3A		D10-2442-08	EJECT ROD		A
313	2A,3A		D10-2454-08	EJECT ROD		B
314	3A		D10-2443-08	DAMPER ARM		
315	3A		D10-2444-08	MAIN LEVER		
316	2B		D10-2446-08	FF ARM		
317	2B,3B		D10-2447-08	FF LEVER		
318	2B,3B		D10-2448-08	FF ROD		
319	3B		D10-2449-08	FF SELECT ROD		
320	3B		D10-2450-08	TRIGGER LEVER		
321	3B		D10-2451-08	F,R LEVER		
322	3B		D10-2452-08	FF LEVER		
324	3A		D10-2453-08	DAMPER ARM		
325	1A		D13-0882-08	GEAR ASSY		
326	3B		D13-0883-08	MAIN GEAR ASSY		
327	3B		D13-0884-08	REEL GEAR ASSY		
328	2B		D13-0885-08	REEL GEAR ASSY		
329	3B		D13-0886-08	FF GEAR ASSY		
330	2B		D15-0311-08	MAIN PULLEY ASSY		
331	2B		D16-0304-08	CAPSTAN BELT		
332	2B		D16-0306-08	FF BELT		
PF	1A		D14-0321-08	PINCH ROLLER ASSY		
PR	1A		D14-0320-08	PINCH ROLLER ASSY		
340	1A,2A		E31-7725-08	CONNECTING WIRE		A
340	1A,2A		E31-7726-08	CONNECTING WIRE		B

E: Scandinavia & Europe K: USA P: Canada 8: KRX-89 A: A MECHA
Y: PX(Far East,Hawaii) T: England M: Other Areas 6: KRX-69 B: B MECHA
Y: AAFES(Europe) X: Australia ⚠ indicates safety critical components.

KRX-69/89

PARTS LIST

× New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
345	2A		G01-2485-08	REWIND ARM SPRING		
346	1A		G01-2486-08	PINCH ARM SPRING		
347	1A		G01-2487-08	PINCH ARM SPRING		
348	3A		G01-2488-08	HEAD SPRING		
349	2A		G01-2489-08	F,R ROD SPRING		
350	3A		G01-2490-08	EJECT ROD SPRING		A
350	3A		G01-2497-08	EJECT ROD SPRING		B
351	2A		G01-2491-08	HEAD UNIT SPRING		
352	2B		G01-2492-08	FF LEVER SPRING		
353	2B		G01-2493-08	BACK TENSION SPRING		
354	3B		G01-2494-08	FF ROD SPRING		
355	3B		G01-2495-08	BACK TENSION SPRING		
356	3B		G01-2496-08	TRIGGER LEVER SPRING		
357	3B		G02-0969-08	FLAT SPRING		
358	1B		G11-2024-08	MOTOR CUSHION		
360	1B		J21-5622-08	FLYWHEEL MOUNTING HARDWARE		
361	1B		J25-6439-08	PRINTED WIRING BOARD (SWITCH)		A
361	1B		J25-6440-08	PRINTED WIRING BOARD (SWITCH)		B
363	1B,2B		J30-0277-08	SPACER		
370	1B,2B		N09-2780-08	SCREW (MOTOR)		
371	1B		N09-2795-08	SCREW (M2.6X7)		
372	1B		N09-2796-08	SCREW (M2.6X16)		
373	1B		N09-2797-08	SCREW (M2X8)		
374	1B		N09-2798-08	SCREW (M2X16)		
375	1A		N90-2006-46	SCREW (M2X6)		
376	1A		N90-2008-46	SCREW (M2X8)		
378	2B		N19-1247-08	FLAT WASHER		
379	2B		N19-1248-08	FLAT WASHER		
380	1B		S46-1136-08	LEAF SWITCH(MODE)		
381	1B		S46-1137-08	LEAF SWITCH(HALF,Cr02)		A
381	1B		S46-1137-08	LEAF SWITCH(HALF,ERA,Cr0,META)		B
390	1A		T31-0060-08	HEAD BLOCK ASSY		A
390	1A		T31-0061-08	PLAY BACK HEADY		A
390	1A	*	T39-0013-08	HEAD BLOCK ASSY		B
391	1B		T94-0220-08	SOLENOID (PLUNGER)		
392	1B		T94-0221-08	SOLENOID (CORE)		
MM	1B		T42-0568-08	DC MOTOR ASSY		
RPEH	1A		T39-0014-08	REC,PLAY,ERASE HEAD		B

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KRX-69/89

SPECIFICATIONS

Amplifier section

Rated power output

KRX-89

100 watts per channel minimum RMS, both channels driven, at 8Ω from 20Hz to 20,000Hz with no more than 0.09% total harmonic distortion. (FTC)

KRX-69

40 watts per channel minimum RMS, both channels driven, at 8Ω from 40Hz to 20,000Hz with no more than 0.09% total harmonic distortion. (FTC)

Total harmonic distortion
at 1/2 rated power 0.04%
Signal to noise ratio
PHONO (MM) ..... 80 dB
CD, TUNER, AUX, TAPE ..... 98 dB
Input sensitivity/Impedance
PHONO (MM) ..... 2.5 mV/47 kΩ
AUX ..... 150 mV/47 kΩ

Tuner section

FM tuner section
Tuning frequency range ..... 87.5 MHz~108 MHz
Usable sensitivity
(IHF at 75 Ω) ..... 0.95 μV/10.8 dBf
Total harmonic distortion (at 1 kHz, 65 dBf input)
MONO ..... 0.4 %
Signal to noise ratio (at 1 kHz, 65.2 dBf input)
MONO ..... 78 dB
Stereo separation (at 1 kHz) ..... 40 dB
Frequency response
(30 Hz to 15 kHz) ..... +0.5 dB, −2.0 dB

AM tuner section
Tuning frequency range
9 kHz step ..... 531 kHz~1,602 kHz
10 kHz step ..... 530 kHz~1,610 kHz
Usable sensitivity ..... 11 μV/(500μV/m)

Graphic equalizer section

Graphic equalizer controls
60 Hz, 300 Hz, 1 kHz,
3 kHz, 10 kHz ..... ±12 dB

Cassette deck section

Type ..... 4 track 2 channel stereo
Heads
Playback/Record head (Deck B) 1
Playback head (Deck A) 1
Erasing head (Deck B) 1
Motors ..... 1 (each deck)
Fast winding time
(Deck A) ..... Approx. 90 seconds with C-60 tape
Frequency response (Deck B)
Normal tape ..... 30 Hz to 14,000 Hz ± 3 dB
CrO_2 tape ..... 30 Hz to 15,000 Hz ± 3 dB
Metal tape ..... 30 Hz to 15,000 Hz ± 3 dB
Signal to noise ratio
DOLBY NR ON ..... 65 dB (Normal tape)
DOLBY NR OFF ..... 57 dB (Normal tape)
Wow and flutter ..... 0.08 % (W.R.M.S.)
±0.22% (DIN)

General

KRX-89
Power consumption ..... 3.5 A (For USA model)
260 W (IEC) (For other countries model)
Dimension ..... W: 440 mm (17-5/16")
H: 349 mm (13-11/16")
D: 275 mm (10-13/16")
Weight (net) ..... 13.2 kg (29.1 lb)

KRX-69
Power consumption ..... 180W (IEC)
Dimension ..... W: 440 mm (17-5/16")
H: 349 mm (13-11/16")
D: 320 mm (12-5/8")
Weight (net) ..... 11.8 kg (26.0 lb)

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